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ARNOLD'S  
MEDICAL COMPANION  
FOR  
YOUNG MEN;  
CONTAINING THE  
LAWS OF PHYSIOLOGY AND HEALTH,  
AND A  
HISTORY OF EVERY DISEASE;  
ITS CAUSE, PREVENTION, AND CURE.  
ALSO,  
A SPECIAL LECTURE  
ON ORGANIC GENERATION; ITS PHILOSOPHY, SINGULARITIES,  
AND DERANGEMENTS; CONTAINING MANY STRANGE  
AND USEFUL FACTS ON THE SUBJECT  
OF PROCREATION.  
BY  
J. L. ARNOLD, M.D.

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## P R E F A C E .

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A WORD to the reader, before the perusal of this book. In order to have a practical knowledge of this subject, it is necessary that you study thoroughly the following pages, from the first to the last, and that you have studied already my Lectures on Anatomy, Physiology, and Hygiene. In this way, you can acquire a thorough knowledge of the human system in a healthy and in a diseased condition ; and how to preserve it in the former, or bring it safely out of the latter. It is not sufficient that you turn to some particular disease and read of it, in order to understand the disease in all its relations with the body ; you should study thoroughly the whole book, and then you will learn the general principles that govern the entire system, and be much better prepared to understand any particular disease. This book does not pretend to take the place of the intelligent physician in every case. The intelligent physician is necessary, in every community, to advise with in complicated cases ; cases that cannot be understood by limited experience. To an intelligent physician, the circulation of this book will be an advantage, enabling the community in which he practices, to appreciate his acquirements. To the ignorant pretender—the charlatan alone—will a dissemination of this kind of knowledge be a disadvantage. There are many simple diseases and simple diseased conditions of the body that can be understood and treated by those who are not physicians, as well as by physicians themselves. In fact, these simple diseased conditions are the commencement of a great majority of more serious diseases, and if attended to on

the start, would generally ward them off entirely. To enable the reader to prevent disease ; when it is approaching to check it at the commencement—and to treat more serious diseases where medical aid cannot be obtained, is the object of this book.

Among the remedial means recommended, are some whose great power render it necessary that they be used with caution. Among these, are Blood-letting and the Mercurial preparations. Although invaluable in many diseased conditions of the body, if pushed too far they are capable of doing harm. It is thus with almost every valuable agent ; its power of doing good, when properly used, is in proportion to its power of doing harm, when improperly used. Where powerfully depleting remedies are recommended, particularly blood-letting, a strong plethoric habit and a violence of diseased action is presupposed. When this is not the case, milder means should be used. General blood-letting will seldom be found absolutely necessary, if simpler means for reducing the system be properly used. As a general rule, use the mildest means possible, to correct diseased action. Never reduce the system more than is absolutely necessary, so that the period of convalescence may be as short as possible. This subject also recommends itself to the general student, as a study of Science and Art, without reference to its practical utility. No other branch of human knowledge affords so vast a field for investigation as this ; and, although much is known of it already, sufficient remains unknown to stimulate the ardent searcher after discovery.

JANUARY, 1856.

J. L. A.



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TO

SYNOPSIS OF ANATOMY, PHYSIOLOGY, AND HYGIENE,

AND TO

DISEASE AND ITS TREATMENT.

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## LECTURE I.

### INTRODUCTION.

It is unnecessary to dwell on the vast importance of the subject before us; and the many advantages a proper understanding of it would confer; suffice it to say, that just in proportion as health is valuable—just in proportion as a long and happy life is desirable—in that proportion is a knowledge of the laws of life, of health, and of the healing art valuable. We do not expect, in these lectures, to make every hearer a skillful physician; this requires the patient study of years and not of books alone; but of Nature, as she exhibits herself under every possible circumstance. A well qualified physician will always be necessary in the most intelligent community; to advise with in the most extreme cases, where the disease cannot be comprehended by those whose experience is limited, and where the ordinary means of treatment are insufficient. But I do expect to set forth the laws of Life and Health in such a manner that all may comprehend them; and by living according to them, prevent much, if not all the bodily suffering they would otherwise be subject to; for it may be set down as a fact, that nine-tenths of our sickness is owing to a violation of the laws of our system. I expect to set forth the simple, common sense principles of the healing art (which at the

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beginning of almost every disease can be applied by the unprofessional, as well as by the professional, and which, in a majority of cases, if applied at first, will nip disease in the bud), so that each person can understand and apply them.

It is the inability to apply the proper remedies at first, that makes so many serious cases of sickness. When a fire breaks out in a building, a child with a bucketful of water, can put it out; but if the fire gets fiercely agoing, it baffles the power of the most skillful men. And if the child, ignorant of what course to take, throws a combustible liquid, such as turpentine, on the fire, in the hopes of quenching it, he makes the matter tenfold worse. When a person gets sick, he or his friend will do something for him; no difference how injurious their treatment may be, they must do something, until the case becomes alarming, and then they send for a physician; whereas, if the case had not been made worse by improper treatment, it would not have needed a physician. Now, my object is to enable every one to throw on the bucket of water on the start, instead of the turpentine, so as to quench the flame before the whole structure is involved. Perhaps there may be some physicians, actuated by mercenary, rather than philanthropic motives, who will censure me for thus removing the veil from medical science, so that all can see and understand. But the consciousness of doing good to thousands, will more than compensate me for bearing the ungrounded ill-will of the few. These lectures, instead of injuring the intelligent physician, will be an advantage to him; for by disseminating the first principles of medicine through the community in which he practices, it will enable his patrons to better distinguish

him from the mere empiric, who, by operating on the people's ignorance of the healing art, not unfrequently is better patronized than the intelligent physician.

I trust that the progressive enlightenment of the age will ere-long do away with that mystery which has so long kept this most valuable knowledge from the popular mind. What has been not inappropriately called "the jugglery of medicine," must eventually be done away with. The time will come when medicines will not be a whit more valuable, nor diseases or parts of the body more singular, for being dubbed with Latin names. All this mummary and mystery will give place to good, solid common sense. The science of Physiology and Materia Medica will be taught in our common schools, and will be considered essential studies. When this is done, we shall not see so much contemptible quackery and humbuggery as now exist in the practice of medicine. We shall not see ignorant charlatans grow rich from their impudence alone. We shall not see the commonest medicines (disguised under the senseless and ridiculous names that we see paraded in the newspapers,) swallowed down by the million, from the mere recommendation of the lies advertised in their circulars. In a word, we shall not see the people taking anything and everything they hear recommended for their ailments, without knowing the nature or even the names of the ingredients of these compounds.

I started out in life with the resolution of devoting what feeble powers I was possessed of to the cause of humanity, and I think I can best serve that end at present, and particularly through this new country, where the seeds of disease are so thickly scattered, by disseminating, to the extent of my small abilities, the

principles of health and disease, and of the means of preserving the former and of curing the latter. Thus far my life has been principally devoted to my profession. When a student, I devoted myself to it with the ardor of an enthusiast. I not only informed myself from books and lectures, but from the sick-bed of the hospital, where disease is depicted in every imaginable shape, and where alone the medical student can properly qualify himself. The last few years have been devoted to the practical application of the principles of medicine to the removal of disease, rendering me now, I imagine, capable of imparting instruction on this subject, both from study and from practical experience. Henceforth, therefore, I shall endeavor to use my professional acquirements, not wholly as a means of enriching myself, but by teaching others, to add my mite to the welfare of the whole. "Let your light shine before men," is a maxim applicable to the physician, if to any one; because he holds in his hands the keys of life and death; and how culpable must he be, if he withholds this light of knowledge from his fellows! Every physician ought to consider himself the medical teacher, as well as adviser, of the community in which he lives. I admit, if every well qualified physician would thus consent to make himself useful, fewer physicians would be necessary; but what were necessary would be of a higher order and the people at large would be greatly the gainers.

I shall first give an outline of the anatomy and physiology of the human body; that is, give a brief description of its different parts and the duties those parts perform in the animal economy, in a healthy condition; and the way of keeping those parts in a



healthy condition. Then I shall consider the body in its unhealthy condition; the causes and effects of this condition, and the best means of changing this to a healthy condition. Next, I shall treat of the diseases of each organ separately, and their treatment. *Materia Medica*, or a description of the most valuable medicines used at the present day, with their properties and doses, will form the subject of the last lecture.

#### THE BONES.

The framework of the body is composed of the bones and the ligaments.

Bone is composed of two parts intimately mixed together; an earthy part and a gelatinous part. If you burn a bone, the gelatinous part will be removed, and you will have the earthy or limy part remaining; being shaped precisely as it was before, but whiter and much more brittle. If you let a bone lie sometime in muriatic acid, the limy portion will be eaten out by the acid, and you will have the animal or gelatinous portion remaining, having the same shape as the bone, but so limber that you can tie it in a knot like a string.

Now the mere separation of the bone into its two parts will show you its admirable composition to meet the objects for which it was designed. The limy part is to give it firmness, to prevent its bending. Where this limy part does not exist in sufficient quantity, the limbs are apt to become crooked, as in rickets, and more particularly in a disease called *Mollities Ossium* or softening of the bones. The thigh-bones of *Madame Supiot* were so flexible, from a deficiency of lime, that she could lay her feet on each side of her head; her other bones were equally flexible. At her death,

she was two feet two inches shorter than before she was afflicted with this disease.

The animal or gelatinous portion of the bone is as important in its structure as the limy or earthy portion; it serves to make the bone tough and difficult to be broken. Where there is not a sufficient quantity of animal matter in the bone, it is brittle, liable to be broken by the slightest jar. The contractions of the muscles alone have been known to fracture the bones. This state of the bones constitutes the disease called *Fragilitas Ossium* or brittleness of the bones. Old persons are most subject to it. It often is produced by the scurvy. During Lord Anson's voyage around the globe, his seamen were so afflicted with brittleness of the bones from the effects of scurvy, that all whose bones had been broken, however well they might have been united, had them to come apart again.

The bones, in a healthy state, have but little feeling, but when diseased, they become exceedingly painful, more so than the flesh when it is diseased, because the enlarged bloodvessels press the nerve against the sides of the bone; but when the flesh is diseased it yields from the pressure of the nerve.

The bones are subject to a disease called *Caries*, which acts on the bones as an eating sore does on the flesh. It is caries that causes the teeth to decay. *Exostosis* is an enlargement of the bones. I have seen cases of *exostosis* in the Commercial Hospital, Cincinnati, where the bones were twice their natural size. The bone sometimes changes into a fleshy substance. *Necrosis*, or death of the bone, corresponds to mortification in the flesh. *Spina Ventosa*, is where matter forms in the interior of a bone and afterward makes its way outward beneath the skin.

## INDIVIDUAL BONES.

Bones of the Head. The bones of the skull are separated from each other at birth, so that in passing into the world, they can lap over each other and thus occupy less space. They are flat; concave internally, and convex externally. They are formed of two plates, between which is an elastic, spongy substance called the Diploe. This diploe is elastic, and serves as a protection to the brain from blows. And here I will remark that all bones are endowed with this elasticity to prevent the constant jarring that would otherwise take place. If our bones were as inelastic as lead, the jumping from a fence would produce such a concussion or shock of the brain, that we should instantly die.

We see illustrated here, as in every other part of the human body, and in fact, in every part of the animal and vegetable kingdoms, the infinite wisdom of an all-wise Creator. The most insignificant part of the most insignificant insect is eloquent of the wisdom of God. Everything in nature is perfectly adapted to the purpose for which it was designed. No improvement in any organized thing, can be suggested by the acutest human mind.

The two plates of the skull are in some places separated from each other, forming cells; as is the case behind the eyebrows, forming what are called the Frontal Sinuses. These frontal sinuses communicate with the nose and discharge matter into it not unfrequently, when a person has a bad cold. The bones of the skull, during childhood, gradually unite, until they become as one bone, inclosing the brain in a firm case, best adapted, by its spherical form, to counteract the effects of blows. Wherever you strike the skull, you

strike an arch whose columns go in every direction—and an arch is the most resisting of all structures.

Through the skull are holes, in different parts, for the passage of nerves and bloodvessels. At the base of the skull is a large hole, through which passes the spinal marrow—the largest nerve of the body—down through the middle of the back-bone.

The Upper jaw-bone and the bones of the nose are joined to the skull. The lower jaw is articulated with it by ligaments. A great part of the nose is filled with thin plates of bone, on the surface of which is spread out the Olfactory or smelling nerve. From this arrangement we see that the odors drawn in at the nose, have a much larger extent of nerve to act upon than if the nerve was expanded only on the sides of the nose. In the upper jaw-bone are two cavities—one on each side—opening into the sides of the nose, which are sometimes the seat of a very painful disease—the inflammation of its lining membrane. When matter collects in these cavities and does not get exit, a tooth has to be drawn and a hole bored from the socket of the tooth into the cavity of the jaw to let the matter out. There is another small hole opening into the nose on each side; it leads from the nose, through a small tube, called the *Ductus ad Nasum*, up into the socket of the eye. Through this tube the tears pass from the eye into the nose. When this tube is stopped up the tears run down over the cheek, producing a constant weeping. This difficulty may be remedied by enlarging it with bougies or by inserting a small silver tube in the duct.

The Lower jaw is shaped like a horse-shoe, bent up at the heel. In infancy it is bent but very little at the back part, called the *Angle of the jaw*; as the teeth

come in it becomes more bent; as the teeth fall out it becomes more straight again, as in infancy; thus the child's lower jaw and the aged person's have the same shape. This provision is to enable the jaws to come together at all ages. When this change takes place in persons with long noses, they are apt to be provided with a pair of pinchers, the nose and chin making the forks thereof.

The Teeth are composed of ordinary bone internally, and of a hard enamel externally. When this enamel is destroyed, which is done by hot drinks, acids, and biting hard substances, the internal structure quickly decays, as all bones do when long exposed to the air; hence the necessity of preserving carefully the enamel of the teeth by carefully avoiding the destructive influences spoken of above. Each tooth is provided with a nerve, an artery, and a vein, which enter it at the point of the root. When the nerve of the tooth becomes exposed, or the inner structure of the tooth becomes diseased, it is subject to the painful affection known to almost every one—the toothache. The reason why the toothache is so painful is that the bloodvessels become enlarged and press the nerve against the side of the tooth, there being no chance for the nerve to yield as there is in a fleshy part.

Next we come to the Spine or back-bone.

The spine is a column of twenty-four bones, one placed above another. Through each of these bones, vertically, passes a large hole which, when the bones are together, forms a continuous tube from the large hole at the bottom of the skull, where the uppermost bone is attached, to the lowest extremity of the sacrum—the bone on which the spine rests. Through this Spinal Canal, as it is called, passes the Spinal Cord



or Spinal Marrow—the largest nerve of the body, or rather all the nerves of the body bound up in one cord. Between each of the bones of the spine, on each side, is a much smaller hole, through which comes out a nerve from the spinal cord to supply the parts nearest it with nervous influence. There are twenty-five pairs of these nerves coming out from as many pairs of holes between the spinal bones. The upper and lower bone, each, forms half of the hole for the exit of the nerve: five more pairs of these holes for the exit of nerves coming from the sacrum.

The spinal bones or vertebræ have little prominences of bone protruding from each side and from the back part; to these are attached muscles for bending the spine in different directions, and for moving other parts of the body. Between each of the bones is a cartilaginous or gristly substance to make the spinal column more elastic, preventing concussions or jarrings of the brain, and to afford easier motion between the bones of the spine.

The bones of the different parts of the spine are a little different in their shape. Those of the neck (the Cervical vertebræ) are flat, and shaped so as to afford great rotary motion, enabling us to look in all directions without turning our body. The cervical vertebræ are seven in number. Below these bones are the Dorsal vertebræ, behind the breast; they are twelve in number. They admit of but little motion, because much motion of the breast would interfere with the action of the heart and lungs. To the sides of the dorsal vertebræ are attached the heads of the twelve ribs. The other extremities of the ribs are attached to the sternum or breast-bone.

The five lower bones of the spine (the Lumbar vertebræ) are larger and their articulating surfaces more convex, so as to allow of much motion backward and forward, and sidewise. The spinal column or backbone rests on the pelvis or bones of the hip.

The bones of the Pelvis are large and strong for the attachment of the muscles that move the legs. They constitute the foundation to which the rest of the frame is attached. The pelvis is much larger and broader in the female than in the male, which makes her hips appear so wide. This female peculiarity is made more prominent in our times by the superabundance of clothing used about the lower part of the body. The pelvis sits on the heads of the thigh-bones, which are round like balls, and fit into corresponding round sockets in the pelvis. They are held there by a strong ligament which covers the whole joint, and by a round ligament that goes from the head of the thigh-bone into the socket. The pelvis has a shape something like a basin, from which it derives its name.

In the cavity of the pelvis are the lower intestines, the urinary organs, and the female organs of generation. The cavity is much larger in the female than in the male, to allow the passage of the child. This wideness of the hips and largeness of the cavity of the pelvis is a very important point in female perfection. Where the hips are narrow and the cavity consequently small, it is with difficulty children are brought forth. Sometimes the cavity is so small that the child cannot possibly pass through; then the child has to be cut to pieces and taken away piecemeal; or the mother has to be cut open, and the child taken out through the abdomen or belly.

Extending an inch and a half or two inches below

the lowest point of the sacrum, is a small tapering bone, with two or three divisions, called the Coccyx. This might well be named the tail-bone of man; and especially by those philosophers who contend that man wore originally a bona fide tail. This Coccyx turns inward and is sometimes broken in parturition (child-bearing), especially in those who have no children until a late period of life.

The thigh-bone (Femur) is large and strong; this is necessary, because the weight of the whole body rests on these bones. Here, I would remark, that bones are divided into flat, round, and long bones. Round bones are those thick, hard bones, comprising the wrist and back part of the foot. Long bones are those forming the arms, legs, fingers and toes. They are cylindrical, larger at the ends than in the middle, and hollow within the shaft. The ends are large and solid, to articulate with other bones. The shaft is hollow because it is much stronger than if the same quantity of bone of which it is composed, were in the form of a solid shaft. The hollows of long bones are filled with a very nutritious substance—the marrow—which supports the body, by being absorbed and taken up into the blood, when the body is deprived of its natural food. The heads of the thigh-bones, where they articulate or join with the pelvis, are round like balls, and fit nicely into sockets, where they are held by a large, round ligament going from the upper part of the ball to the upper part of the socket, and by a capsular ligament, which surrounds the ball, and is fastened to the edge of the socket, inclosing the head of the thigh-bone in a shut sack. To the thigh-bones are attached large muscles, fastened at the other end to the bones of the pelvis and

spine. These muscles move the thigh in different directions. Another set of muscles commence at the thigh-bone and are inserted into the leg, moving that. The lower end of the thigh-bone is articulated with the upper end of the tibia or leg bone; before this joint, between the extremities of the two bones, is the flat, short bone, called the Patella or knee-pan, designed to protect the joint, and assist the motion of the leg; it is attached below, by means of a strong ligament to the tibia or leg bone; and above, to the muscles that form the fleshy part of the fore-part of the thigh, designed by their contraction to throw the leg forward. Beside the tibia or large bone of the leg there is another smaller one of the same length, lying on the outside of the tibia, to give better support to the muscles of the leg. This bone is called the Fibula. These bones, the tibia and fibula, are articulated with the bones of the foot.

#### BONES OF THE FOOT.

The back part of the foot is composed of several thick, short bones, closely connected together, admitting of but little motion, but giving great strength to that part of the foot on which the weight of the body generally rests. Extending before these, are the bones of the instep and toes. The first row of five bones, is called the Metatarsal bones; they are very strong, and have but little motion. The next three rows or phalanges decrease in size and strength till the last row. The different joints of the bones of the foot are bound together by ligaments. The bones of the foot are put together so as to form an arch, on which the weight of the body rests.

The arm has one large bone, called the Humerus.

The fore-arm has two bones; the Ulna and Radius. The ulna is attached firmly to the large bone of the arm, while the radius is attached at the lower end to the bones of the wrist, and so connected with the ulna as to revolve over it, producing what is called Pronation and Supination of the hand.

The bones of the wrist are of a similar character as those of the back part of the foot, and the bones of the fingers are of the same description as those of the toes, with the exception of their greater length, and of their admitting of more motion.

#### THE RIBS.

The ribs are twelve in number: seven are what are called true ribs; that is, they are fastened at both ends; one end by a joint to the back-bone; the other, by a gristle or cartilage to the breast-bone or Sternum. The other five false ribs are only fastened at one end to the back-bone, the other end being loose. The ribs are constructed so as to expand the chest laterally, much more than vertically; that is, sidewise more than up and down. Hence the impropriety of girding the bosom tightly; it prevents the due expansion of the lungs, and consequently the due inhalation of air. There are thousands in our country that are opposed to capital punishment who are hanging themselves daily; the only difference being, that strangulation is effected a little higher up in the one case than in the other.

The shoulder-blade or Scapula, is situated on the upper and backside of the chest, being held in its place by muscles, ligaments and the collar-bone (Clavicle), which is fastened at one end to the shoulder-blade, and at the other end to the breast-bone (ster-



num). The Os Hyoides is a small bone of the shape of a letter *v*; it resembles the wish-bone of a chicken as near as anything I can compare it to. It is situated in the throat, and serves to protect the vocal organs, and to assist them in making sounds.

The bones of the ear are of the most curious workmanship. There is a large external channel which goes into the internal organs of the ear. Then there is a chain of bones connected with the tympanum or ear-drum, which goes to the innermost bone of the ear, which is hollow and filled with a fluid, which fluid is compressed more or less as the tympanum or ear-drum is vibrated by the air; which vibrations communicate a motion to the little chain of bones compressing the fluid in the internal bone, before described. Now this fluid presses on some delicate nerves spread out inside the innermost bone, which communicate the impression to the brain through the nerve called the Auditory nerve. This is the mechanical operation of hearing.

## LECTURE II.

### THE MUSCULAR SYSTEM.

WE next come to the muscular system — the lean meat of the animal.

The muscles are not made merely to cover up the bones and give beauty to the shape; every muscle is of use in giving motion. There is not a fibre of muscle in the whole body but what assists in giving motion to some part; and there is not a movement in any part of the body but what is produced by the contraction or relaxation of muscle. Walking, talking, the motions of the eye, the mouth, face and throat in swallowing, laughing and the like, are all performed by muscles; as likewise the circulation of the blood, breathing, the motions of the bowels, the movements of the hands and arms, of the legs and feet.

Muscles are composed of a number of strings or fibres—of lean flesh bound together by membrane. They are fastened at each end to the parts they are intended to move. When a muscle contracts, its substance becomes more compact; it becomes shorter, swelling out in the middle, and by this shortening, moves the part it is attached to. This swelling of the muscle can be felt, by grasping the middle of the arm, while the fore-arm is drawn up.

To each muscle goes a nerve, conveying the orders of the will from the brain to the muscle, forming a sort of electric telegraph through all parts of the body

centering at the brain. The way motion is produced where and when we want it, is this: our will sends the order along the nerve to the muscle moving the part we wish to move, to contract; it contracts, and the motion is produced. For instance—I wish to put an apple to my mouth; my hand is directly above the apple. My will sends an order along the nerve going to the extensor muscles of the fingers; these muscles contract, and my fingers open. Now I send an order to the muscle holding my hand up, to relax. It relaxes, and my hand falls on the apple. I now want to shut my fingers. I send an order to the contractor muscles of the fingers to contract. They contract, and my fingers shut, grasping the apple. If you take a chicken's leg and pull the white cords shown when the leg is cut off, you can open and shut the toes in the same manner that I open and shut my fingers. Now I wish to raise my hand to my mouth and turn it over. I send an order to the flexor muscles of the fore-arm to contract. It contracts, and draws my hand up. At the same time, I send an order to the muscle that turns the hand to contract. It contracts, and turns my hand over. Thus the operation is performed in a hundredth part of the time I have spent in explaining it. In this manner every voluntary motion of our body is performed, and not only of our body, but of every animal, insect, fish, bird, or reptile. This is what enables the flea to jump, the snake to crawl, the elephant to walk. To describe all the muscles of the body, would occupy more time than we have to spare. I will merely notice some of the most important ones.

The face and scalp are full of muscles; some to draw up the skin of the forehead; some to move the ear in all

directions (but few persons can use these muscles for moving the ear). Some muscles are to open and shut the jaw; some to draw up the nose and lip; some to draw up the corners of the mouth, as in laughing. The eyelids and mouth have each a circular muscle to shut them; there are others to open them. The eyeball has muscles that turn it in every direction. When one of these is too short, it draws the eye to one side, producing strabismus or cross-eye. The head is turned in every direction by muscles arising in the neck and attached to the lower part of the skull. The voice is produced by the vibration of two little cords, like violin-strings, drawn across a box of cartilage, which produces the prominence in front of the neck, called "Adam's Apple." This box of cartilage is called by physicians, the Larynx. The vocal cords stretching across the larynx, are attached to small movable cartilages, which are moved by little muscles tightening the cords when we wish to make a fine sound, and loosening them, when we wish to make a coarse sound. Every time we alter the tone of our voice, these little muscles either tighten or loosen the vocal cords. The chest is expanded by muscles attached to the ribs and spine. It is drawn in or compressed by the contraction of the muscles of the abdomen or belly, which are attached to the lower part of the ribs at one end, and to the bones of the pelvis at the other. Hence the impropriety of girding the loins tightly. It prevents a due action of the abdominal muscles, and consequently a proper expulsion of air from the lungs. It is less pernicious to bind the region of the chest than that of the loins, because the abdominal muscles have as much to do with respiration as the muscles of the chest; beside, girding the

loins tightly, compresses the great bloodvessels more than girding the chest can possibly do. Swelling of the lower extremities is a complaint among females, brought on by this cause oftener than by any other. If you are determined then on tight-lacing, put your corsets up around your breast, so that you will not stop your breathing and the circulation of your blood at the same time.

The thighs are moved in all directions by muscles commencing about the pelvis and the lower part of the back, and attached to the sides of the thigh-bone. In like manner, the leg is moved by muscles arising from the pelvis and the thigh-bone, and attached to the fore and back part of the bones of the leg. You can feel the tendons or cords of the muscles that flex or draw up the leg behind the knee; they are commonly called the Ham-strings. Tendons are little white cords fastened to the ends of muscles and going to the part the muscles are designed to move.

This arrangement is a great advantage, because there is more room in some other parts for the situation of muscles, than where the power of the muscle is required; hence a small cord goes from the muscle to the part to be moved.

The muscles that extend the leg and foot are fastened to the upper part of the knee-pan, by means of a stout tendon; from the lower part of the knee-pan goes a strong ligament that is fastened to the front part of the large bone of the leg. The muscles that move the foot commence from the bones about the knee; some are attached to the heel-bone and the under part of the foot and toes, to flex the foot; others are attached to the upper part of the foot and toes, to raise the foot. In persons who walk a



great deal, and in dancers these muscles become largely developed.

The arm is moved forward by muscles arising from the front part of the chest, and inserted into the front part of the bone of the arm. It is moved backward by muscles originating from the shoulder-blade and bones of the spine, and inserted into the backside of the bone of the arm. It is moved up or down by muscles whose contraction draws it in those directions. The fore-arm and fingers are moved by muscles in a similar way that the leg and toes, before described, are moved.

#### THE NERVOUS SYSTEM.

The nervous system has two centres from which nervous influence radiates. That of the Voluntary nerves, and that of the Involuntary nerves. The centre of the voluntary nerves, or the nerves over which our will has a control, is the Brain. The centre of the involuntary nerves, or nerves over which our will has no control, is the Solar Plexus—a ganglion of nerves lying behind the stomach along the spine.

From the brain issue, first, the nerves of the Senses, to each of which belongs the peculiarity of the sense of which it is the instrument.

The Auditory, or nerve of hearing, takes cognizance of sounds, and nothing else. It goes from the brain and is distributed on the lining of the little bone of the ear filled with fluid, as before described. The impressions of the vibrations of the air on the nerve spread out on this little bone, and those impressions being conveyed to the brain, constitute the sense of hearing.

The Olfactory, or smelling nerve is affected by odors alone. It goes from the brain, and is distributed on the bones of the nose, which are formed so as to afford

a large surface for the expansion of the nerve and consequently a large surface to be acted on by the air.

The Gustatory, or nerve of taste is affected by the taste or sapidity of objects. It is distributed on the tongue.

The Optic nerve, or nerve of sight, takes cognizance of light. It is spread out on the back part of the eye.

The fifth sense is that of Touch, located mostly in the parts that we use in feeling, as the ends of the fingers.

Next come from the brain the nerves that go to all the voluntary muscles of the body and to all the sensitive parts. These nerves convey pleasurable or painful sensations to the brain, and carry the orders of the will to the muscles. These nerves going to the body, come from the lower part of the brain all bound up together and surrounded by a sheath. This bundle of nerves is called the Spinal Cord ; a very different kind of substance from that found in the hollow of long bones, which is nothing but fat. Each nerve, in this bundle, goes to some particular part in the body. They issue from the spinal marrow or cord, between the bones of the spine.

If you cut off the spinal cord at any particular place, all the parts supplied with nerves issuing below where you cut it off, will be paralyzed, because you have cut off their communication with the brain ; and invariably, where the nerve of a part is cut off, the feeling and motion of the part are destroyed. A part of a nerve may be destroyed, however, and the feeling or motion remain. The motion of a part may be destroyed without destroying the feeling, and the feeling of a part may be destroyed without destroying the motion ; because there are two parts to each of these nerves—a motor part and a sensitive part ; at their

departure from the spinal cord, these parts are separate, but they are joined again before being distributed over the body.

The brain, beside controlling muscular motion and being the seat of the will and the senses, is also the organ of the intellect and the passions. That a part or the whole of the brain exercises these functions we are well aware; but that each branch of the intellect and of the passions has some particular part of the brain for its organ, we are not prepared to say; and much less are we prepared to say, that each of these portions of the brain has a corresponding protuberance of the skull, for several of these protuberances are produced, not by a growth of the brain, but by a growth of bone.

The Involuntary or Ganglionic nervous system has its centre behind the stomach; it is called the Solar Plexus. This system presides over the heart, lungs, bloodvessels, glands, capillaries, the stomach, and the nutrition of the whole body. The functions of the parts over which the ganglionic system presides, are such that should be entirely free from the control of the will. How long would life remain if we had control over our heart, lungs, bowels, and liver? They would constantly be subjected to the caprices of our changeable will.

#### THE CIRCULATORY SYSTEM.

The Circulatory system is composed of the Heart, Arteries, Veins, Capillaries, and Absorbents. The heart is a muscular body, which, by its contractions, circulates the blood in the same manner that squeezing a bladder filled with water, will project the water with force. The heart is divided into four apartments.

Each apartment is surrounded by muscle. The two surrounded with the weakest muscles are called the Auricles; by whose contraction the blood is forced into the other apartments, called the Ventricles, which are surrounded with much more powerful muscles. By the contraction of the right ventricle the blood is forced through the lungs to be purified by coming in contact with the air, from which it absorbs oxygen and gives out in exchange carbonic acid gas.

When the blood has passed through the lungs, it returns to the left auricle of the heart, whose contraction forces it into the left ventricle. The left ventricle contracting, forces the blood into every part of the body, until the blood comes to the little tubes found in every structure, called the Capillaries. While the blood is passing through these little capillaries, just large enough to let a globule of blood pass at a time, the nutritive part of the blood is taken away from it, changing it from arterial, to venous blood. The nutritive portion of the blood, thus taken away, goes to the growth of the part. Before the bloodvessels are subdivided into these capillaries they are called arteries, and the blood in them, arterial blood. If you cut one of them the blood will issue in jets, corresponding to each contraction of the heart. But after the blood enters the capillaries, it is not affected so much by the force of the heart, but is carried through them by the force called Capillary Attraction, which enables a fluid to rise, of itself, in a very small tube.

After the blood has passed through the capillaries, it goes into the veins, into which the capillaries terminate, forming a connecting link, as they do, between the arteries and veins. From the small veins the blood is carried into the larger ones, like the water of

brooks into rivers, until the whole venous blood is collected into two large streams, one coming up from the lower part of the body and the other coming down from the head, and both emptying into the right auricle of the heart, by whose contraction it is forced into the right ventricle. By the contraction of the right ventricle the blood is forced into the lungs, from which it returns to the left auricle; the left auricle contracting, the blood is forced into the left ventricle; the left ventricle contracting, forces the blood through the general system again. This is the simple course of the circulation of the blood.

From the blood are derived the growth and maintenance of the body, and all the secretions thrown off from the body by various channels; such as the secretions of the kidneys or the urine, the secretions of the skin or the sweat, the vapory secretions of the lungs, the secretions of the bowels, and others which will be mentioned in due time. But from whence does the blood derive the supplies to keep up all these expenditures? From what is taken into the stomach, and what is taken up in every part of the body by what are called the Lymphatics.

When we take food in the stomach it is dissolved by a peculiar fluid called the Gastric juice, formed by little follicles in the stomach for that express purpose. When it is properly dissolved by the gastric juice, it is passed into the first bowel and sucked up by little tubes, whose mouths open into the whole course of the bowels. These tubes are called the Chyliferous vessels, because they suck up the food after it is changed into a milky substance, called Chyle. These little vessels open most numerously into the first bowel, called the Duodenum. When the chyle is thus taken



up by the little vessels, it is emptied into a main duct, which empties into a large vein, and is mixed with the blood. This is the way the food gets into the blood, to replenish it and to keep up the system.

In every part of the body are little vessels called Lymphatics, that are constantly taking up the old, worn-out parts of the body and sending them into the blood, to be renovated again. The whole system can be affected by a medicine being rubbed on the skin, it being taken up and carried into the system by lymphatics. We don't know the exact nature of the changes of the food into blood; the blood into flesh, bone, skin, ligaments, glands, hair, nails, and the various secretions; and the returning of the old matter to be renovated again. Pro. Leibeg, a celebrated chemist, has attempted to explain these changes on purely chemical principles. The body is compared to a steam engine—the stomach being the furnace; the lungs the bellows; the blood the water; the heart and bloodvessels the boilers; and the nerves the conducting-pipes, which convey the steam or moving power to the muscles, which act as straps and wheels to keep the machinery of the system in operation. These operations are not sufficiently explained at present, but they will eventually be satisfactorily explained by the known laws of physics.

#### THE GLANDULAR SYSTEM.

A Gland is a soft, round structure for the separation of some peculiar fluid from the blood. The Liver and Kidneys are glands. You can form no idea of the nature of the fluid a gland secretes from its structure. What peculiarity there is in the structure of the liver to enable it to separate the bile from the blood; or

why it should separate the bile rather than some other secretion—the saliva, for instance—we cannot, from its structure, tell. Each secretion has its use. The secretion of the **Salivary** glands of the mouth is to moisten the food, and thus facilitate swallowing. It is probable that Nature designed no other fluid being taken while eating; as we see illustrated by the feeding of the inferior animals. The cow and horse, though using much dryer food than man, seldom drink while eating. The Bile or secretion of the liver is designed to stimulate the bowels to carry off the refuse and superfluous portions of our food. It is the natural purgative of the system; better by far, than all the “liver” and “antibilious” pills or “purifying extracts” that were ever mixed up.

While digestion is going on and the chyliferous vessels are taking up what nutriment the system requires, the bile accumulates in the Gall-bladder; for the opening of the gall-duct, which conveys the bile from the gall-bladder into the bowel, is so constructed as to prevent the bile flowing out while the first bowel, where the chyliferous vessels mostly open, is full. But after the bowel becomes partially empty from the absorption of chyle, then the mouth of the gall-duct opens; the bile runs into the bowel and stimulates it to carry off the useless matter. The manner of the bile being poured into the bowel, shows the impropriety of eating at too short intervals, thus keeping the bowel continually full, and keeping the mouth of the gall-duct pressed shut.

The Kidneys are to prevent a too great accumulation of fluid in the system, as we are continually using more fluid than the system requires. The kidneys also separate and carry off improper substances that

get into the blood. The secretion of the kidneys is called the Urine. After it is separated from the blood, it is carried from the kidneys by two ducts, called the Ureters, into the bladder. It is carried from the bladder by a duct, called the Urethra.

The Skin also separates and carries off the watery part of the blood. It is filled with little tubes, called Perspiratory Ducts, for this purpose, connecting with the bloodvessels at one end, and opening externally on the skin. The principal function of the skin, beside carrying off the effete matters and superabundant fluids of the blood, is to maintain an equable temperature of the body, by the evaporation of the sweat or perspiration from the surface. When fluids evaporate, they carry off a certain amount of heat. In this way the evaporation of the sweat from the skin carries off the excess of heat of the body. If it were not for this wise provision, the body would melt down, in hot weather.

This effect of evaporation is illustrated by boiling water in a kettle. You cannot melt the kettle so long as there is water in it, for the changing of the water into steam carries off one thousand degrees of heat, which, if retained in the kettle, would soon melt it. It is this power of sweating to keep down the heat of the body, that enables men to remain in a hot oven until a piece of meat is roasted. If they did not keep down the temperature by evaporation, they would roast as soon as the meat. The reason of our drinking so much in the summer is to afford fluid for evaporation. The necessity of keeping the skin clean, so that the pores may exhale this fluid, is apparent. The exhilaration one feels after washing his body proves this.

You observe that where the skin passes from the outer to the inner part of the lip, it changes in its nature. This inner skin is called Mucous Membrane. It lines the mouth, throat, stomach, and all the bowels, the windpipe, the air tubes and cells of the lungs, the urinary and uterine systems, the nose, and eyelids.

Mucous membrane secretes a soft fluid, called Mucus, which protects the membrane and facilitates the passage of the various substances over it.

#### SEROUS MEMBRANES.

These are membranes of a different structure and for a different purpose. The lungs, heart, bowels, womb, liver, spleen, kidneys, and brain have a covering of Serous membrane. It is generally shaped like a sack, one side of which is attached to the organ that it covers, and the other side to the walls of the cavity that the organ is in. They serve also to separate the different organs from one another. Serous membrane exists also in the joints; in the shape of a shut sack. This membrane secretes a watery fluid, called Serum, designed to facilitate the motion of the parts with which it is connected.

#### THE HAIR.

The Hair grows from a capsule at its roots. It is barbed like wheat, so as to make it lie in one direction. Its use is to protect the part it covers, as on the head, and to prevent chafing, as under the arms. The exact use of the beard has not been decided upon. By civilized nations generally, it seems to be considered of no use, as it is kept shaved off. Perhaps its principal design might have been to distinguish the sexes, which has been rendered unnecessary heretofore by difference in dress.

## THE NAILS.

The Nails grow very much in the same way as the cuticle. They are designed as a protection to the ends of the fingers and toes, and to render the sense of touch more acute.

We have given now a general description of the different tissues and organs that constitute the human body in a normal or healthy condition.



## LECTURE III.

### TREATMENT OF DISEASE.

NEXT we shall treat of the unhealthy conditions of the body, and of the different tissues and organs as affected by disease ; and of the best treatment to cure these diseased conditions.

#### FEVER.

Fever seems first to claim our attention, inasmuch as it is a cause, or accompanying symptom, or a consequence of most every diseased action. Fever is that condition of the system in which there is an increased circulation of the blood with increased heat and diminished action of the secreting organs. The feeling of the skin is generally sufficient to detect fever. There is an indescribable sensation of pungent heat experienced by the healthy skin coming in contact with a fevered part, that cannot be mistaken. The other symptoms accompanying fever generally, are a sense of weariness, loss of appetite, thirst, restlessness, headache, dryness of the tongue, costiveness, want of sleep or disturbed with dreaming.

Fever first affects the nervous system, producing bad sensations, then the secreting system, preventing the separation of those fluids from the blood, which ought to be thrown off from the body by the liver, kidneys, bowels, skin, and lungs. It next affects the circulating system ; the heart beats faster and harder,

until general fever becomes established. If the fever is not checked, congestion and inflammation of some vital organ takes place—some master-wheel of the machine becomes destroyed—without whose action the operations of life cannot go on, or the whole system becomes prostrated and vitality is extinguished in every part.

Nearly all the ordinary cases of fever might be warded off, as well as not, by the simplest means, if used in the first or forming stage. When you have the unpleasant feelings described as those ushering in fever, don't go and take more stimulating food and drinks to rouse your weary spirits; if you do, you will be but fanning the slumbering sparks of fever into a flame; but rather lessen your amount of food; for a few meals take nothing but the simplest articles of diet, such as thin corn-meal gruel, or rice-water. If you have been confined too closely within doors, take more exercise in the open air. If you have worked too hard with your head or hands, ease up a little, give yourself rest. Dismiss care from your mind; and be sure and give yourself a good scrubbing from head to foot, with water and a coarse towel. If your bowels are costive, take a brisk cathartic, Salts, or Oil, or Senna. If your skin is yellow, and you have a bitter taste in your mouth, and your urine is high-colored, take ten grains of Calomel just before going to bed, and work it off in the morning with a dose of Salts. If the skin, hands, and feet are cold, and you are subject to chills creeping over you, give yourself a good steaming, which can be done by putting a blanket around you and sitting over a basin of hot water, into which an assistant will hold, by means of a pair of tongs, hot bricks or flat-irons, letting them into the water so as

to produce as much steam as you can bear. By these simple means you can ward off an ordinary attack of fever. But, if you neglect using these means until the fever fairly sets in—until the skin, liver, bowels, and kidneys have stopped secreting their fluids—until you are hot and dry—“burning up with a fever”—as the phrase is, then you must resort to more energetic means. If there be a weight and sickness at the stomach, as though some indigestible substance were there, take an emetic. Twenty grains of Ipecac., with two grains of Tartar-emetic; to be followed, when vomiting commences, with copious draughts of warm water until the stomach is thoroughly evacuated. After the vomiting is over, put the same quantity of ipecac. and tartar-emetic in a pint of warm water, and use a tablespoonful every half hour, or hour, just often enough to keep slightly nauseated; at the same time using from two to four grains (according to the strength of constitution or violence of the fever) of Calomel every two or three hours, until it operates freely on the bowels.

If the bowels are not operated upon after six or eight doses have been taken, take a large dose of Epsom-salts, or Castor-oil, or Senna. About two table-spoonsful of either will probably be sufficient. The spoonsful of senna should be heaped up. After the senna is steeped, it can be rendered more palatable by the addition of sugar and milk. The forehead and face should be kept constantly wet with cold water, which can be done by keeping one thickness of thin muslin, wet, lying over it all the time. If a cloth, about the size of a pillow-slip, be kept wet with warm water and laid over the breast and bowels, it will favor sweating greatly. Cold water in any quantity, and

that acidulated with lemons, or vinegar, or tartaric acid, if it is more agreeable, can be allowed.

No food should be taken while there is a high fever, unless it should be some thin, corn-meal gruel. If the fever gives way, and you then break out in a sweat, and the pulse becomes softer, it is not necessary to continue the use of the tartar-emetic and ipecac. longer; the use of which is designed to reduce the heart's action, and to overcome the heat and dryness of the skin: when this is accomplished it is unnecessary to continue the remedy longer. If the fever returns, resume the same treatment again until you have subdued it. If the person be strong and full of blood, and the above treatment does not subdue the fever in the course of twenty-four or thirty-six hours, he should be bled from the arm in a sitting posture, until fainting or until a pint of blood has been taken. If there be much tendency of blood to the brain, or pain in the head, cupping on the back of the neck will greatly relieve it. Cupping can be performed with a common thin tumbler and a sharp razor. Set fire to a small piece of paper, throw it in the tumbler, and clap the tumbler over the part to be cupped. When it has drawn five or ten minutes, take it off, and make a few gashes with the razor; clap the tumbler on again and let it draw as long as it will.

If, after all these means have been used, there still remains a feverishness, take twenty grains of Dover powders, or enough to make you sleep, when you will probably break out in a profuse sweat. If there be oppression in the chest or under the ribs, or in the bowels, keep cloths wrung out of hot water over the part. If the oppression continues for twenty-four or forty-eight hours, indicating congestion in some inter-

nal organ and threatening inflammation, or if inflammation has already commenced, more violent external applications must be used—a mustard plaster or a blister, and a large one, covering a space larger than you suppose the internal surface to be that is inflamed. If inflammation of the brain is threatened shave the back part of the head, and put a blister on, letting it extend down along the spine, being careful to keep the forehead constantly wet with cold water.

There are different kinds of fever. The Intermittent fever, the Remittent fever, and the Continued fever, according as there is a complete intermission of the fever at regular times, or an abatement of it, without a complete intermission, or a continuance of the fever without any abatement. Then there is the Bilious fever, where the liver does not perform its functions properly. The Inflammatory fever, where some important organ is inflamed. The Eruptive fever, where there is an extensive eruption on the skin.

Fevers are of different grades also; the high, active form of fever, called Synochal, and the low form of fever, called Typhus fever. The Intermittent fever, commonly called Fever and Ague, comes on regularly every day, or every other day, or every third day, or even at longer intervals. It commences with a chill, caused by the blood leaving the extremities and surface of the body and rushing to the internal organs; this chill is succeeded by a fever, caused by a re-action, which drives the blood to the surface again with increased force. The fever or hot stage, is succeeded by the sweating stage; after which the circulation seems to be restored to a healthy action.

The intermittent and bilious fevers, and remittent fevers, are generally caused by a poison in the atmo-



sphere, called Marsh Miasm, that is generated by stagnant water or decaying vegetable matter. This is the reason of its great prevalence in new countries, where the water-courses are obstructed and the forests are full of decayed leaves and timber.

There are many means by which the periodical return of the intermittent fever or fever and ague, chill-fever, dumb-ague, ague in the face, sun-pain (all of which proceed from the same cause) can be stopped ; and if the person is careful, as regards exercise, diet, and exposure to wet or cold, he may remain exempt from the disease ; but so long as one remains in a miasmatic district, and more especially with irregular habits, there will be a liability to a return of these periodical complaints.

A very good way to shorten the immediate attack of intermittent fever is to use the steam bath in the cold stage, until sweating is produced, using, at the same time, nauseating doses of Ipecac. or Tartar-emet. After the sweating stage is over, commence using two grains of Quinine and four of Blue-mass every two hours, until eight doses are taken ; eating nothing but the lightest kind of food, such as gruel, rice-water, or weak chicken-broth. After the ague is stopped, it will be necessary to eat lightly and work lightly until the body has regained its healthful vigor. A tea made of some tonic bitter, such as Wild Cherry-tree bark, Quassia, or Peruvian bark, would be very useful, taken every morning before breakfast.

Remittent fever, or that where there is a slight abatement of the fever, generally toward morning, should be treated in the **same** manner as laid down for the treatment of simple fever. After the fever has been broken up by this treatment, Quinine should be

taken in doses of about two grains, every two hours, until eight doses are taken.

Continued fever should be treated in the same manner as described for simple fever, also; perhaps a little more energetically, if necessary, until the fever is subdued; and after it is subdued, if it be in a fever and ague district, use a few doses of Quinine to prevent a return of the fever.

Typhus fever is marked by an early prostration of the powers of life, a wandering of the mind, a dryness and brownness of the tongue, a stoppage of the secretions, involuntary discharges from the bowels and bladder, and generally an implication of some vital organ, as the brain, lungs, liver, or bowels. In the treatment of typhus fever, if bleeding be necessary at all, it is at the commencement of the disease, and that by means of cups over the part most oppressed. Then you want to introduce the mercurial influence into the system as speedily as possible; by which means you expect to restore the different parts of the system to a natural and healthy action. Mercury is the sheet-anchor of hope. If you can affect the system by Mercury there are strong hopes of recovery. If you cannot do this, it is reasonable to suppose the case is dangerous.

In my experience there is nothing that gives so much satisfaction in restoring the natural secretions as Mercury; it seems to act directly on the skin, bowels, kidneys, and more especially on the liver. You must keep constantly in mind that an action on these vital organs is the desideratum in the treatment not only of typhus fever, but of every other disease where these organs are in an inactive condition. Give then, two grains of Calomel (Calomel is a preparation

of Mercury), every two hours, until the skin softens and is inclined to become moist; until the discharges from the bowels become more healthy; that is, more yellow and of a natural consistence, and until the tongue loses its dryness and becomes moist and soft. When Mercury has accomplished this, it has done all the good it can, and requires to be used no longer, or else salivation will ensue, which is to be avoided if possible.

If there be not much irritability of the stomach, that is, much nausea or vomiting, combine the two grains of Calomel with half a grain or a grain of Ipecac., according as the stomach will bear it. If there be a looseness or running off at the bowels, combine each dose of Calomel with two grains of Dover Powder. If there be obstinate vomiting, put some hot cloths or a mustard plaster over the stomach; if this does not stop it, combine the Calomel with an eighth part of a grain of Morphia, until the vomiting stops. As long as the head is hot and feverish, it should be kept wet with cold water. If any of the internal organs become congested or inflamed, a blister must be put over the part. Cold water is the best drink, and it can be freely used. If a cloth be kept wet with warm water over the breast and bowels, it will have a tendency to prevent internal congestion, and will favor sweating.

If nourishment is desired at all during the active stage of typhus fever, or when a favorable crisis has taken place, the lightest kind of nourishment only, should be used, such as corn-meal gruel or rice-water, or thin chicken-broth. When the system sinks very low, stimulants may be used, although I must confess, I never saw much advantage from their use in typhus

fever. Hot, highly-seasoned chicken or beef-broth combines nourishment with stimulus, and probably is the best that can be used in such cases, given in small quantity every four or five hours. In very low cases, Brandy toddy or Wine may be used as necessity requires. Cloths wrung out of hot camphor and laid over the body and limbs, is a good way of applying stimulus. When there is a difficulty of introducing nourishment and stimulus by the mouth, it can be introduced in an injection. Rubbing the limbs with salt and water, by means of a coarse towel, either in the first or last stages of the disease, is a very useful means. If a diarrhea sets in during the latter stages of the disease, it must be checked. This can generally be done by keeping flannels wrung out of hot camphor, over the bowels, and by giving four grains of Dover Powder, four grains of Mercury and Chalk, and two grains of Tannin every four hours, until the diarrhea is checked. During the course of this fever, great care must be observed in the use of purgatives, for, sometimes three or four large discharges from the bowels will carry off the patient. When it becomes necessary to move the bowels, it had better be done by injections.

During convalescence from this disease, one cannot be too careful in regard to diet, and exertion, and exposure. The lightest diet, the lightest exercise, and the least exposure is urgently indicated. Some bitters made of Peruvian bark and port wine, used in small quantities, is often of much benefit in giving tone to the system.

#### TYPHOID FEVER.

This is a grade of fever between an active synochal fever and a typhus fever; its treatment resembles that laid down for typhus in the main. Changes must be

made as symptoms occur. If there be a high, active fever, the system must be reduced; if there be prostration, stimulants must be used; if internal congestions, counter-irritating applications to the surface, as cloths wrung out of hot water, mustard plasters or blisters.

## YELLOW FEVER.

The Yellow fever is the most aggravated form of remittent; sometimes carrying off its victims in twenty-four hours. It is characterized by a most violent fever at first; a yellowness of the skin; a vomiting of yellowish matter, and a great derangement of the nervous system. After these symptoms come great prostration of the whole system, and a vomiting of black matter, like coffee-grounds. There is no certain method for the cure of this disease; it too frequently baffles the skill of the most intelligent physicians. The only course that can be taken, is to treat the symptoms as they arise, depleting where the action is too high, and stimulating where there is prostration. The first may be accomplished by cupping over the region of the stomach, by small mercurial cathartics (four grs. Calomel every three hours), and by sponging the surface. The latter, by rubbing the surface with Mustard and Brandy, and introducing what stimulus, internally, that will be retained. A new treatment has been recommended by some physicians, who say they have tried it with good success; it is to use saline medicines, such as the muriate of ammonia, the salts of magnesia, common salt and the like.

We next come to the Eruptive fevers, or those accompanied with an eruption on the surface.



## SCARLET FEVER.

Scarlet fever is so called, from the peculiar scarlet appearance of the skin in this complaint. It is contagious; the fever is ushered in by chilly sensations, weakness, headache, pains in the limbs, and the symptoms generally that usher in an ordinary fever. The eruptions appear two days after the fever. In its treatment, the object is to keep the system in as favorable a condition as possible, so that the fever does not get too violent. Sponge the face and head, if there is too great tendency of blood to the brain; if the bowels are costive, open them gently with Salts or Senna. If there is a want of action of the liver, give a dose of Calomel—fifteen grains to a grown person, eighteen years old or upward. Half this dose to a youth half this age, and half the dose for a youth, to a child half the youth's age, and half the dose for a child, to an infant half the age of the child. This is a good rule to go by, in administering medicines to persons of different ages—dividing the dose as the age corresponds with the age of an adult (which may be considered eighteen years). If the throat is sore, gargle it frequently with a strong solution of alum. Spirits of Mendereri may be given; a teaspoonful every hour, to keep the skin moist. This can be made by putting carbonate of ammonia in vinegar, so long as the vinegar will effervesce.

## MEASLES.

Measles commence like a common cold. On the fourth day, the eruption appears, which is distinguished from the eruption of scarlet fever, by its being of a darker color, and coming more in separate spots, than in scarlet fever. The nose, eyes, and lungs are

generally affected. And here, I will speak of a principle that holds true in irritation or inflammation in any particular structure. When irritation or inflammation exists in any particular structure of the body, it is more likely to extend along that structure than along another structure, although the other structure lies next to it. And if irritation or inflammation leaves one part of the body, and goes to another part, it is more likely to fall on a structure similar to the one it first existed in. For instance, in an irritation or inflammation of the mucous membrane of the intestinal canal, which extends from the mouth downward, it is apt to go along the whole length of the bowels; and wherever this mucous membrane extends. Mucous membrane lines the throat, windpipe, and all the bronchial tubes or divisions of the windpipe, which communicate with the air-cells of the lungs. Mucous membrane lines the nose, and a small duct opening into the nose, which conveys the tears from the eyes. The eyeball is covered with a mucous membrane, called the Conjunctiva, which also lines the eyelids. Now the extension of the irritation along the mucous membrane into the nose, eyes, and lungs, is the cause of all these being affected in measles.

The object in the treatment of this, as in the foregoing disease, is, to keep the arterial action or fever, from getting too high. Give an emetic of Ipecac. at first, to be followed by a dose of Salts; then give half a grain of Ipecac. and a teaspoonful of the spirits of Mendereri every two or three hours, until the active stage of the disease is over. When there is much oppression of the lungs, cupping may be practiced in the first stage of the disease; or the use of mustard plasters or blisters in the latter stage.

## SMALL POX.

Small Pox is an eruptive fever, ushered in by the same symptoms as other fevers, the eruption appearing on the fourth day. On the eighth day the suppuration is complete, and on the tenth or eleventh the sores break and begin to dry up. Its treatment is very simple.

Keep the room cool and shaded. Let the patient use as a drink cold water, in which is dissolved cream of tartar. Use, every three or four hours, six or eight drops of the Diluted Sulphuric acid, which is formed by mixing one part of sulphuric acid with thirteen of water. At the onset of the disease it is best to give a Mercurial Cathartic—say ten grains of Calomel and ten of Jalap. If the fever is too violent blood must be taken. Let the diet be very light. The room must be well aired. If sinking occurs, as often is the case in what is called the confluent or malignant variety, where all the sores run together and form one continuous sore over a great part of the body, stimulants must be used to support the powers of life. Where an excessive diarrhea occurs in this malignant variety, it must be checked; which can be done, probably, by the use of small doses of opium.

Some physicians are in the habit of opening the pustules on the face, before they burst, and putting in a little lint dipped in some mild ointment to prevent, in a measure, the formation of what are called “pock marks.” The system may be protected against the small pox by Inoculation and by Vaccination. The former is the application of small pox matter to the cut or scratched skin, by means of which it is absorbed, and excites a very mild form of the disease; and once

having the disease, as is the case with the measles and scarlet fever, exempts one from having it again. Vaccination is the application to the scratched skin of the matter from a cow that has had the small pox, which excites a still milder form of the disease and still protects the system from the small pox. Vaccination is generally practiced with matter or the scab from another person that has been vaccinated. Dissolve a small portion of the scab in a drop of water, then scratch the skin on the arm with a sharp instrument until you start the blood, put the matter on, and then put a wet wafer over it and a rag around the arm, and let it be until it takes, which will be in from three to five days.

I consider vaccination a sure preventative of the small pox. I have tested it in my own case. I was vaccinated when I was five years old, and have since been exposed to small pox in its most virulent form without taking it. Sometimes persons who have been vaccinated take a slight eruption on being exposed to small pox, called Varioloid, which is not a serious disease.

#### CHICKEN POX.

Chicken Pox has some of the symptoms of small pox, though much milder. In ordinary cases nothing is necessary to be done but to keep the bowels open, give cooling drinks, use light diet, and keep the room well aired.

There is another kind of eruptive fever called Miliary fever. After the fever has existed three or four days, the body breaks out in a kind of a rash or little red pimples, gradually extending over the extremities and abdomen.

**TREATMENT.**—Keep the bowels open by mild cathartics. Use cooling drinks. If there be much fever, keep up a slight nausea by means of small doses of Ipecac. If sinking occurs, give tonic, stimulating remedies, such as Quinine and Wine.



## LECTURE IV.

### INFLAMMATION.

THE next subject we shall treat of is Inflammation. No word, literally, can better express this morbid condition than the one that is applied to it—inflammation—for the word is derived from the Latin verb, *inflammo*, which means, *to burn*. For inflammation is really a burning and destruction of the part in which it exists. Inflammation is characterized by increased heat and redness in the part, attended with pain and swelling. The redness, and heat, and swelling are produced by too great a quantity of blood in the part. It is an established principle of medicine, that, wherever there is irritation there is an increased flow of blood. The pain is produced by the pressure of the enlarged bloodvessels on the nerves.

Inflammation may terminate by a return of the part to its natural condition, without any alteration of its structure; this is called a termination by Resolution, and is the most favorable termination. It may terminate by the formation of matter called Pus. This is called a termination by Suppuration. It may terminate by an absorption or eating away of the part, forming an ulcer. This is called a termination by Ulceration. And lastly, it may terminate by a complete destruction, or death, of the part. This is called a termination by Mortification. Where parts, cut by a sharp instrument, unite by being glued together

with an adhesive fluid thrown out for the purpose in all such cases, the slight inflammation accruing, which is necessary for the healing of the part, is called Adhesive inflammation.

Inflammation is of two kinds, Acute and Chronic. Acute, when it is violent and apt to excite fever in the general system. Chronic, when it is slow and has existed for a long time, the symptoms not being so violent as in acute inflammation. The treatment of inflammation in any organ, is General and Local. General, by keeping the whole body in a proper condition; which is done by the use of the common reducing means, used as circumstances require; such as blood-letting by the lancet or cups, nauseants, the warm-bath, cathartics, light diet and sedatives. The Local treatment is, when the inflammation first occurs, and there is a probability of being able to drive it away without the formation of matter, to apply something that will excite the enlarged bloodvessels to contract and force out the accumulated and stagnant fluids. The means to be used are compression with a tight bandage; very cold or very hot applications, as ice-water, the shower-bath, flannels wrung out of hot water; stimulating applications, such as turpentine, the various stimulating liniments, mustard, hartshorn confined to the part, or a blister of Spanish Flies, or of the common potato flies; astringent applications, such as a solution of the sugar of lead or alum, or a strong decoction of oak bark or nut-galls. If you cannot drive away or "scatter," the swelling by these means, which you can ascertain in the course of from twenty-four to forty-eight hours, and the formation of matter is certain, you must then use means to promote the formation of matter—to "bring the swelling to

a head." A poultice will accomplish it better than any other means. As good a way to make a poultice as any, is to cut a slice of light bread, take the crust off, lay the bread on a plate, and then saturate it with warm water. Lay the slice thus prepared on the affected part, and keep it moist and warm until the matter is collected sufficiently to be discharged. We will commence now with the inflammations of the several structures of the body.

#### THE SKIN.

The Skin is composed of three coats. The outer coat, called the Cuticle, a transparent covering without color or feeling, designed as a protection to the coats beneath; it is the coat that is raised up in blisters. The middle coat, called the Rete-mucosum or Mucons Net-work, is a very delicate membrane, with difficulty separated from the other coats. It is the seat of the coloring-matter of the skin; it is the color of the rete-mucosum that distinguishes the sooty Ethiopian from the fair Circassian, so that beauty does not in reality lie even skin deep, as is generally supposed, but only half skin deep. The third, or inner coat of the skin, is the one in which is situated the bloodvessels, nerves, absorbents, and exhalants of the skin. This third coat, called the Cutis Vera, or true skin, is the seat of inflammation.

#### DISEASES OF THE SKIN.

Erysipelas is an inflammation of the skin. In this disease a shining redness is diffused continuously over the skin, attended with a burning, itching pain. It commences on all parts of the body, sometimes on the

arms or legs, and sometimes on the body or face. It extends with great rapidity, often commencing at one point on the face and extending over the entire face and scalp during twenty-four hours. When it is on the face, the eyelids are apt to become shut by the swelling. When it occurs on the scalp, the brain is very apt to become affected. It is generally produced by derangement of the bowels or of the system generally—from “bad blood,” as the common expression is. The least scratch will serve for a starting-point, when the system is in the proper condition for the reception of the disease. Sometimes the atmosphere seems to be impregnated with some sort of poison that favors its extension, causing it to assume an epidemic form.

Its treatment consists, first, in purging out the bowels with a mercurial cathartic; ten grains of Calomel and ten grains of Jalap. If this does not operate in eight hours, repeat the dose, until a brisk operation is produced. At the same time, apply over the part a strong solution of Lunar Caustic, ten grains to the ounce of water. Draw a stick of the Lunar Caustic, moistened, around the inflamed part; it will sometimes prevent the erysipelas going over it. A narrow strip of Blister-plaster put round will have the same effect to prevent its extension. Where there is much arterial excitement, and the person is full of blood, it would be well to draw some blood. Where the erysipelas is changing about from one place to another, and the head seems to be affected, there is danger of its going to the brain, and a Mustard-plaster or Blister had better be put between the shoulders to concentrate the irritation there.

## BOILS.

Boils are situated in and under the skin ; they can sometimes be driven away before matter forms, by cutting them open and letting out the blood, and then applying compression and cold over the part. Or they can be driven away by some stimulating application, as a Mustard-plaster, Spirits of Ammonia, or a Blister ; but where matter is forming or has already formed, which is apt to be the case after forty-eight hours, a bread-and-milk poultice had best be used.

## TETTER, OR RINGWORM.

Tetter, or Ringworm, can be cured by washing with a solution of Corrosive Sublimate.

## ITCH.

The Itch, which is caused by little vermin, like lice, too small to be seen with the naked-eye, can be cured by anointing with Sulphur and Lard a few times, and then washing the entire body with soap and water, and putting on clean clothes. Red or Blue Precipitate ointment will also cure the itch.

## ULCERS, OR SORES.

Ulcers on the legs, commonly called Fever-sores, should be treated by bandaging the leg from the toes upward, using an ointment made of Jamestown-weed, lard and tallow, and Mercurial ointment. If there be much pain, put a little Sugar of Lead and Opium with the ointment. The patient should keep still and use light diet. If there be much heat and fever in the leg, keep the bandages wet with water. Use internally two tablespoonful of the following syrup, three times a day : Make a strong tea of Sarsaparilla, using



about two quarts of water with as much Sarsaparilla as it will cover, and boiling it down to a pint. Dissolve in this, half a dram of the Hydriodate of Potassa, and use as directed above. The Sulphur-bath is very efficacious in the cure of cutaneous eruptions. A Sulphur-bath can be given by putting the person in a box with a close door. In the top of the box have a hole, large enough to put the head through, around which is fastened a collar of oiled-silk with a draw-string to prevent the gas strangling the subject. The gas can be let in at the bottom by means of a tube attached to a tight vessel, into which is put about a tablespoonful of Sulphur, and set on fire.

#### SHINGLES.

There is a very common eruption of vesicles that encircle the waist, like a girdle, called "Shingles," which can generally be cured by using a brisk Cathartic and washing the part with some astringent wash, as a solution of Sugar of Lead or Alum.

#### SCALD-HEAD.

In Scald-head the hair should be closely cut off and the scalp washed every morning with soap and water, after which an ointment of Mercurial Ointment and Sugar of Lead should be applied.

#### CORNS.

Corns are morbid growths of the skin pressing on the extremity of a nerve, caused by too great pressure on the parts, as by the use of tight boots. They will generally get well themselves by wearing large boots. They can be cured by paring them down to the quick, and then putting on a drop of Sulphuric Acid.

Warts can be cured in the same way.

## CHILBLAINS.

Chilblains are caused generally by the parts being frozen; they are characterized by an intense itching. They may be cured, at first, by rubbing them with turpentine or some stimulating liniment. If they break and form an ulcer, use a stimulating ointment such as the Citrine Ointment.

## THE EYE.

The Eye is composed of three distinct coats or layers. The outer coat is composed of the Sclerotica and Cornea; the middle, of the Choroid coat, the Iris, and Ciliary processes; and the inner coat, of the Retina and Zonula Ciliaris. The outer coat is hard and resisting to give strength to the eyeball. The front part, the Cornea, is transparent and shaped like a watch-crystal. It is inserted into the Sclerotic coat in precisely the same manner that a watch-crystal is inserted into its rim. It would seem as though the watch-maker had got the idea of the crystal from the eye.

The next coat of the eye is the Choroid and Iris. The Choroid is a thin-colored membrane, the outer side of a chocolate color, the inside of a deep black. The design of this dark color, is to absorb the surplus rays of light, otherwise we would be dazzled and confused by a strong light. In Albinoes, this color is wanting, which renders them incapable of seeing, except at twilight or by moonlight. The Iris—meaning rainbow, is so called, from its variety of colors in different individuals. It serves as a curtain to divide the front and back chambers of the eye. It has a round hole in the centre, called the Pupil, through which the rays of light pass, through which we see. The iris is composed of two sets of muscular fibres, one

set radiating from the centre to the circumference, by whose contraction the pupil is dilated, and a set of circular fibres, by whose contraction the pupil is contracted. A strong light excites the circular fibres to contraction, so that not so much light is admitted into the eye. A weak light excites the radiating fibres to contraction, so that more light may be admitted into the eye. The iris has also another thin layer back of the fibrous or muscular layers, of a purple color, called the Uvea. The third tunic of the eye is called the Retina. It is merely an expansion of the optic nerve, which enters into the ball of the eye from behind, and is spread over about three-quarters of the inner, back part of the eye. This coat is the seat of our sight. On this, the light forms a picture of the object we see, and the impression is carried to the brain along the optic nerve, which goes to the brain. Behind the iris is a transparent, crystalline body, called the Lens, the use of which, is to concentrate the rays of light, so as to form a picture small enough for the size of the Retina. Before this lens, filling what are called the Anterior and Posterior chambers of the eye, which are separated by the iris, is a thin, transparent humor, called the Aqueous humor. Behind the lens, filling the main part of the cavity of the eyeball, is what is called the Vitreous humor; there is a delicate, transparent membrane, going all through this vitreous humor, dividing it into cells. The eye is supplied with nerves and bloodvessels, as is every other organ of the body. The appendages of the eye are the eyebrows, the eyelids, the Tarsal cartilages, the Meibomian glands, the eyelashes, the muscles, the lachrymal gland ducts, sack, and nasal duct. The eyebrows and eyelids have

muscles that move them, opening and shutting the eyes. The eyebrows are designed to shade the sight, and turn the perspiration from the eye. Along the edge of the eyelids are the Tarsal cartilages, designed to give a shape to the eyelids, and enable them to shut closely, and to give a firm basis to the eyelashes. Along the edge of the eyelids are a set of minute glands, called the Meibomian glands, which secrete a fluid that anoints the edges of the eyelids, keeping them from sticking together.

The Lachrymal gland is situated above the eye, and secretes the tears. It pours them out, so that they run over the eye, after which, they go into two little holes in the edge of the eyelids, in the inner corner of the eye; one hole is in the upper, and one in the lower eyelid. These holes are the mouths of the Lachrymal Ducts, which open into the Lachrymal Sac; from the lachrymal sac, the tears are conveyed into the nose, through the Nasal Duct. The front portion of the eyeball and the inside of the eyelids are covered with a mucous membrane, called the Conjunctiva, which continues on through the lachrymal and nasal ducts into the nose.

#### DISEASES OF THE EYE.

The Conjunctiva or mucous membrane covering the eye and lining the lids, is subject to inflammation, caused generally by substances such as dust, and insects coming in contact with the external covering of the eye, or "getting into the eye," as it is generally called. These should always be removed as soon as possible. The best way to remove them is to do it with a pin, the head of which, is guarded by a thickness of silk handkerchief. After the irritating body

has been removed, there will be a soreness and a feeling as though it were still there, and often, the soreness is made much worse by a constant rubbing of the eye. This rubbing of the eye should be carefully avoided in all its diseases. Inflammation of the conjunctiva is often the result of catarrhs or bad colds; the irritation extending from the throat and nose up the mucous membrane that lines the tubes that carry the tears from the eyes to the nose. The best treatment is to bathe the eyes frequently with cold water, or cold water in which is dissolved some astringent substance, such as alum or sugar-of-lead. The eyes should be kept from a strong light, either by a dark room or by a green sun-shade. A light diet should be used, and the bowels should be kept regulated, or rather loose, by cathartics, such as Salts, Senna, or Castor-oil. The eyes should be used as little as possible. These directions apply to all inflammatory affections of the eyes.

Cataract is an opacity of the lens of the eye, preventing the rays of light from passing through and forming a picture on the retina, destroying vision. Cataract can be easily told by the appearance of a white cloud behind the iris, and from a dimness or complete loss of sight. The removal or destruction of the lens by means of a surgical operation, is the only way to cure it.

Amaurosis is a palsy of the optic nerve. No alteration in the structure of the eye can be noticed; it is a loss of power in the optic nerve, to take cognizance of light. The only means that can be used, with any prospect of benefit, are those that will have a tendency to stimulate the optic nerve to action, such as Moxæ, Electricity, Strychnine, either applied on a blistered surface over the eye, or dropped in the form



of a tincture, into the eye. Where amaurosis has existed any length of time, the prospect for cure is very poor.

When ulcers or fungous growths form on the cornea or sclerotica, or on the lining of the eyelids, they should be touched with Lunar Caustic. In the treatment of all diseases of the eye, too much attention cannot be paid to those dietetic rules necessary for keeping the body in a healthy condition.

#### THE NOSE.

The walls of the Nose are composed of Bone and Cartilage, covered externally by skin, and lined internally by mucous membrane. On this mucous membrane is spread out the Olfactory nerve or nerve of smell. To afford a larger surface for the expansion of this nerve four little bones are placed in the nose like shelves, two in each nostril, which are also covered with mucous membrane, on which this nerve is expanded. Animals having very acute smell, as the hound, have a still larger surface for the expansion of this nerve. The air, impregnated with odors, coming in contact with the olfactory nerve spread out on the lining of the nose, communicates that peculiar sensation to the extremities of the nerve called — Smell or Odor. Catarrh or cold produces an irritation of the lining membrane of the nose, causing it to secrete a mucus; this difficulty generally goes away of itself.

There are serious diseases pertaining to this handle of the face. Polypus is a pulpy growth inside the nostrils that must be removed either by ligature or the knife. The end of the nose is sometimes the seat of a most painful disease, called *Noli-me-tangere*, or "Touch-me-not." It is cured by some application

that will kill the nerve, generally some preparation of arsenic.

#### FOREIGN BODIES IN THE NOSE.

Foreign substances, Beans or Peas, for instance, can be removed from the nose, simply by punching them out at the back part of the nostrils, unless a small wire, bent double, can be passed up the nose and thus haul the substance out in front.

#### THE EAR.

The Ear is a most beautiful machine, taken as a whole, perfectly adapted to the purpose for which it was designed; that is, to communicate the vibrations of the air to the Auditory or Hearing nerve. The vibration of the air is the cause of all sound. The outer or cartilaginous portion of the ear is formed so as to collect and concentrate the vibrations of the air on the ear-drum, which is a delicate membrane, stretched across the auditory passage, dividing the external from the internal ear. This ear-drum could not vibrate unless there was an opening for the air to go out and in from the inner chamber, no more than the head of a military drum would vibrate if it had no hole in the side. Now there is just such a hole, connected by a tube with the back part of the mouth; sometimes when a person has a bad cold and the lining membrane of this tube, called the Eustachian tube, inflames, and the tube becomes closed, the hearing is destroyed. It has been restored in some instances, by puncturing the ear-drum, so as to admit air to the inner chamber. This tube is sometimes opened after it has become closed, by an operation. Connected with the ear-drum is a chain of the most delicate and intricate little bones and muscles in the whole

body. The innermost of these little bones is connected with a small spiral-shaped bone, hollow, resembling a snail shell. This little spiral-shaped bone, called Cochlea, is filled with a fluid. Lining the inside of the cochlea is a membrane in which the auditory or hearing nerve is spread out. Now the last bone of the chain is placed so as to press on the fluid in the cochlea and thus make an impression on the ramifications of the auditory nerve, so that just as the ear-drum is vibrated by the undulations of the air that produce sound, so this fluid is compressed by the last of the chain of bones, and the auditory nerve is impressed with the sensation of hearing.

Inflammation of the structures of the ear, which may be known by heat and pain in the part, should be treated by frequent washings and injections with cool and astringent washes, Such as sugar of Lead water, and by a depletion of the general system by light diet and cathartics. In Chronic Inflammations of the internal ear, attended with a purulent discharge, injections of soaped water should be used twice daily, and counter-irritation should be used by means of blisters behind the ears, or by means of pustulation produced by a use of Tartar-emetic ointment, applied so as to keep out a crop of sores behind the ears continually, until the discharge from the ears ceases.

## LECTURE V.

### THE MOUTH.

THE Mouth contains, receives, and gives out many things. It is, as it were, the vestibule of the human temple. The Lips partake partly of the nature of mucous membrane and partly of the nature of the external skin, called Epithelium, very delicate in its structure, at least that is the opinion of most all lovers; its ruby, delicate structure is well calculated for the kissing operation.

The lips become sore sometimes, and are apt to be kept sore by the tongue licking them continually. A slight soreness can be cured by keeping them dry and applying some simple ointment. If the soreness has been of long standing and is very painful, they should be first cauterized by lunar caustic. The lips are moved in every direction by muscles. The Tongue is composed almost entirely of muscles, whose contractions move it in almost every possible direction. These muscles have their origin from different parts of the jaw-bone and from the os hyoides. Over the tongue is spread out the Gustatory or Tasting nerve. Under the tongue and under the lower jaw are glands that secrete the juices of the mouth, the Spittle or Saliva, with which our food should be moistened. If we chewed our food long enough and did not exhaust these glands by the continual use, of artificial stimulants, they would afford sufficient fluid to mix our food with without any other

drink during eating. None of our domestic animals drink while they are eating; and our digestive apparatus is similarly constituted.

In the cheeks, lips, palate and throat are muscles for performing the various motions of the parts in chewing and swallowing, spitting and speaking. The Palate is a curtain suspended between the mouth and throat to enable us to breathe while we are chewing. Behind the mouth is the cavity called the Pharynx or throat, into which the mouth and the two nostrils terminate, from the upper and back part of which the Eustachian tubes commence, and from the bottom of which commences the Esophagus or gullet, and Larynx or windpipe.

The mouth is often subject to inflammation. It is oftener owing to some derangement of the digestive organs than to any other cause. Your first object then is to get these in a proper condition, and then some slightly astringent wash, as of Borax, Alum, or Sugar of Lead, will effect a speedy cure. For sore mouth in children, generally called Thrush, some Slippery-elm water in which is dissolved Alum. The bowels should first be evacuated, however, by some mild cathartic, such as Magnesia. When ugly ulcers form in the mouth they should be rubbed over with Blue-stone or Nitrate of silver. In salivation from use of Mercury, hold a piece of Alum in the mouth, or chew Oak-bark or Nutgalls.

#### TONSILS.

On each side of the throat, back of the mouth, are two little lumps, called the Tonsils, that are not unfrequently inflamed and enlarged. Active inflammation of the tonsils, called Quinsy, should be treated by general depletion of the system, by means of Blood-



letting, Cathartics, and light diet, and by a frequent use of astringent gargles. The application of Cups to the outside is the best way to abstract blood in this case. When inflammation of the tonsils has fairly set in, it is almost certain to terminate in suppuration, and no relief is to be expected until the pus or matter is discharged. In chronic inflammation of the tonsils, touching them with Lunar Caustic will sometimes effect a cure; when it does not, however, the tonsils must be cut off with an instrument made for the purpose.

When the little teat of the palate, called the Uvula, grows too long, producing a disagreeable tickling in the throat, try to reduce its length first by the use of Caustic; if this fails, it must be cut off, otherwise it might lay the foundation of some serious disease of the respiratory organs.

#### THE WINDPIPE.

The Windpipe is situated in front of the Esophagus, so that the food, in passing down the throat, must pass over the top of the windpipe. To prevent the food passing down the windpipe, a little clapper of cartilage is placed over the opening of the windpipe, which shuts down when we swallow, and rises up when we breathe. This little cartilage is called the Epiglottis.

#### LARYNX.

Under the epiglottis is a little cartilaginous box, called the Larynx, across which are stretched two little cords, called the Cordæ Vocales, which are fastened at the other end to two movable cartilages, called the Arytenoid cartilages. To these movable carti-

lages are fastened muscles whose contraction and relaxation tighten or loosen the *Cordæ Vocales*. By the vibration of these cords principally, the tones of the voice are produced. It is these and not the tongue, as is generally supposed, that produce the voice. This little music-box of the throat is larger and more prominent in men than in women, producing that prominence in front of man's throat, called "Adam's Apple."

When the Larynx is inflamed, it is called Laryngitis or Croup. Children are more subject to it than grown persons. The best treatment is to keep the child constantly nauseated by small doses of Ipecac. With the first two or three doses mix a grain or two of Calomel, enough to produce an operation on the bowels. Keep a poultice of Tobacco-leaves or Snuff around the throat. If the inflammation is not subdued in a day or two, a false membrane forms in the Larynx, which is pretty sure to produce death by suffocation.

When suffocation is about to take place from Croup, an opening may be made in the Windpipe, below "Adam's Apple," and a quill inserted so that the child can breathe until the inflammation and swelling subside in the Larynx and the child is enabled to breathe through the natural passage.

When the Windpipe has been cut off, or partly off, as in an attempt at suicide, the edges of the wound should be brought together with adhesive strips, and the parts kept perfectly still. The reason that attempts at suicide, by cutting the throat, are not more fatal, is that the wound is made too high up, where much cartilage is to be cut through before the large bloodvessels of the neck are reached; lower

down, near the breast-bone, the bloodvessels lie more superficially and are more easily severed.

When foreign substances get down the Windpipe and become fast, if they cannot be coughed up, they must be taken out through an opening in the windpipe.

Below the Larynx the Windpipe continues to the lungs, a straight cartilaginous tube, rendered firm by ring-like thickenings at equal distances apart. When the Windpipe, called the Trachea below the Larynx, reaches the lungs, it divides into two tubes, the right and left Bronchiæ, going to the right and left lungs. These Bronchiæ subdivide into other bronchiæ, until they finally become minute tubes, each one going to a separate air cell.

These Air Cells constitute the principal part of the Lungs; they are covered with bloodvessels, through which the impure blood, returned from every part of the system, passes, being forced there by the contraction of the right side of the heart. The impure blood, in passing through the minute bloodvessels around the air cells, comes in contact with the air and is changed from impure venous blood to pure arterial blood. This is the object of breathing, to bring the air down the windpipe, along the bronchial tubes, until it reaches the air cells and comes in contact with the blood. When the blood is changed by passing around the air cells, it is taken up by another set of vessels and taken back to the left side of the heart, whose contraction sends it through the general system. The windpipe and the bronchial tubes are lined with mucous membrane. This mucous membrane is irritated in common colds.

The inflammation of the mucous membrane lining

the larynx is the cause of croup. When the lining of the bronchia is inflamed, it is called Bronchitis. The treatment of croup has been spoken of before. The treatment of acute or active bronchitis should be much the same; topical applications, such as hot cloths, mustard plasters or blisters, should be applied over the breast. Flannels wrung out of hot water, and frequently renewed, are excellent applications for this difficulty. Fever must be kept down by the depleting remedies used to keep general fever down, such as blood-letting, active cathartics, and nauseants. Dissolve six grains of Tartar-emetic in a pint of warm water, and give a tablespoonful every half hour or hour, sufficient to keep a slight sickness at the stomach, until the fever abates, and a moisture of the skin is produced. If fever and dryness of the skin return, use the Tartar-emetic water again, in the same way. The warm-bath in this, as in most other inflammatory diseases, is of great utility. After the disease has existed some time, and the patient is weakened with a cough and difficulty of breathing, the Syrup of Squills or a Syrup of Elecampane or Horehound, combined with Cherry-tree bark, and some preparation of Iron is very useful; using at the same time, some irritation on the outside, as a blister or mustard plaster; and using the salt-bath every three or four days; and being careful to avoid exposure; — nor use the voice more than is absolutely necessary. Many cases of chronic bronchitis have been mistaken for consumption, and when cured, they are reported as cases of consumption cured.

Consumption is a very different disease; it is not situated (at least in the first stage,) in the bronchial tubes, but in the substance of the lungs themselves.

Some persons are predisposed to consumption ; that is, they have from their infancy, the seeds of the disease in their lungs, transmitted to them from their consumptive parents ; these seeds of consumption are called Tubercles ; they can easily be detected in the lungs of those predisposed to this disease, resembling little yellow seeds. These seeds may lie dormant in the lungs during life ; but it is seldom they do. In the spring-time of life, generally, and from a slight cold they are germinated, and rapidly grow into the most incurable disease. When these seeds begin to be developed into disease, they enlarge, inflame, and finally change into matter, which is discharged through the bronchial tubes, thence up the windpipe, and out at the mouth, forming sores in the lungs, which rapidly increase in size, eating away the substance of the lungs, until there is not lung enough left to purify the blood ; then the patient dies. You can always detect these cavities in the lungs, by putting the ear to the chest, when you will hear the gurgling of the matter within, especially when the patient coughs. The chest sinks as the lungs decay. By tapping on the chest, it sounds more hollow than in the healthy one. The patient becomes weak, pale, poor, he has fever every afternoon ; profuse night-sweats, sometimes diarrhea, hacking cough at first, afterward more violent, throwing up yellow matter. When this disease fairly sets in, and large cavities or sores are formed in the lungs, it is incurable. Those cases staring one in every quack advertisement, of consumption being cured, are vile impositions to extort money from the credulous sufferer.

The only hope of cure is in the first stage ; before the sores are formed ; before matter is spit up to any



great extent. In the first stage of the disease, the person should live on the most simple, unirritating food; and he should ride much on horseback; this alone, has prevented many cases of consumption; at the same time, he can use a tonic of Sarsaparilla and Wild Cherry bark, with some preparation of Iron; rubbing the body from head to foot every morning with a flesh-brush, and taking a salt-bath once a-week. Removing to a warm climate is also very necessary. Use dry cupping on the outside of the chest, and Tartar-emetic ointments in order to raise a crop of sores there; this will draw the irritation from the inside to the outside, and thus prevent the disease being developed. When the disease fairly sets in, an occasional vomit will help to throw up the matter. Nourishing food, and tonics of Bitters, Iron, and the Mineral acids will support the system. A little Opium will check the diarrhea, and allay the pain; Blisters will also be useful, but no hope can there be, of these remedies curing the disease. Medicines introduced by inhalation act more directly on the diseased lung than when taken by the mouth.

In Pneumonia or Inflammation of the Lungs, which commences with chills, pain, and oppression in the chest, the difficulty of breathing increasing as the disease advances, with cough, the skin hot, the pulse strong and quick, difficulty in drawing in the breath, tongue white, the bowels costive generally, the treatment should be of the most active kind, or the patient dies; bleeding from the arms freely, and several times, if the violent symptoms should return; then Tartar-emetic in sufficient quantity to keep the patient constantly nauseated, Cupping over the chest, mild Cathartics, and Injections; the Warm-bath. If oppres-

sion still continues, large Blisters on the chest. These means, if used actively, will generally cure the patient. There is a variety of inflammation of the substance of the lungs, occurring in malarious districts, commonly called "Lung Fever," that is peculiar in its nature, and requires a peculiar treatment. It is most apt to occur in damp, chilly weather, during the winter and spring, when the temperature is between the freezing and the thawing points — that kind of cold, damp weather that strikes a chill through one, more disagreeable than a more severe coldness, that would freeze up the moisture. The damp atmosphere, at such times, seems to be peculiarly favorable for the reception and dissemination of miasms. Such weather seems to relax and prepare the system for the reception of malarious poisons; especially is it so with systems already debilitated by malarious diseases. Persons having had the Fever and Ague, are liable, during such weather, to take a chill; the blood, leaving the surface and extremities of the body, rushes in on the lungs and congests them so much more violently than in a chill of the common Fever and Ague, that when the reaction or fever takes place, the blood is not entirely driven from the lungs, but a portion of it remains, and becomes consolidated, filling up the spongy structure of the lungs, so that it resembles liver instead of lung. Now, there is no way of removing this hardened lung, except by its becoming inflamed and changed into matter, and discharged by the mouth. This constitutes what is called "Lung Fever," in Fever and Ague districts. It is marked by fever, which continues all the time, dry skin, a dry, brown tongue, difficulty in breathing, not much pain in the chest, unless the pleuræ are also inflamed, and a circumscribed

purple flush on the cheeks, or more generally, on one cheek only. This is the most fatal disease that is peculiar to malarious districts, and requires the best of attention to be cured. Generally, the patient has already been debilitated by disease, consequently, powerful depleting means are inadmissible, such as general Blood-letting and powerful Cathartics. When called to a case that is just attacked, I prescribe small doses of Calomel and Ipecac., say two grains of each, every two hours, until the bowels are freely operated on, after which I continue the use of Ipecac. in sufficient quantity to keep down inordinate fever.

Remember, it is impossible to subdue the fever so that it will not return, until the lung has commenced suppurating, or changing into matter. Keep the face and forehead wet with cold water as long as it is hot and feverish. Flannels, frequently wrung out of hot water, or mustard plasters, must be kept over the breast. If the urgent symptoms do not subside in forty-eight hours, or if the patient has been down two or three days with it before you are called, put on a large blister, covering over one quarter of the entire chest, over the affected lung. Put the ear to the chest frequently to learn how much of it is impervious to the air, and how large a portion is ulcerating. When the hardened lung begins to be changed into matter, the object is to have the matter raised or spit up, as fast as it is formed. If the patient has sufficient strength to raise the matter as it is formed, until the whole of the diseased lung is removed in that way, he will recover. Hence the necessity of not reducing the patient's strength on the commencement of the disease more than is necessary.

Expectoration or raising of the matter, is much

assisted by keeping flannels, wrung out of some hot stimulating fluid, such as camphor and water, over the chest. During this latter period of the disease, no more nauseants should be used than is absolutely necessary to keep down too high a fever. In fact, during this period the fever should be kept down, if possible, simply by keeping the face bathed with cold water. If there is an appetite, give simple food, such as rice, chicken-broth, buttermilk, and the like. It would be well, after the patient commences throwing up matter, to give a tea-spoonful of the Compound Syrup of Squill, with two grains of quinine, every four hours, for two or three days. It will have a tendency to assist expectoration, and prevent an undue return of fever.

#### PLEURISY.

In Pleurisy (inflammation of that serous membrane which surrounds the lungs and holds them in their place), which is indicated by fever, a darting pain through the chest, not so much oppression generally as in Pneumonia (inflammation of the lungs), nearly the same treatment should be used as in the above mentioned diseases. Opium may be given where the action of the system is somewhat reduced.

#### ASTHMA OR PHTHISIC.

Spasmodic affections of the lungs, are relieved by nauseating or emetic doses of Lobelia or Squills. Smoking Tobacco, and the common Jamestown Weed have been known to cure it. Whooping-coughs, colds, and most other irritating or inflammatory affections of the lungs, can be cut short by nauseating remedies, the warm bath, light diet, and, afterward, expectorants of Squills, Gum-ammoniac, Senega Snake-root, and the like.

## THE HEART.

The Heart is subject to inflammation of its substance, Rheumatism, Dropsy, an enlargement of its Structure, to a changing of its valves into Bone and to Nervous affections. Perhaps we have less control over the Heart, either in the healthy or unhealthy condition, than over any other organ of the body. In diseases of the heart the general system must be kept in proper condition; nothing stimulating should be taken into the stomach, unless in attacks where instant death is threatened; here a teaspoonful of Ether, and a like quantity of Spirits of Lavender will be useful. Dropsy of this organ exists in the serous membrane which surrounds the heart; it is apt to occur when Dropsy exists in other parts of the body; active purging is here indicated, with Jalap and Cream of Tartar. Where there seems to be a want of action in the system, tonics, particularly of Iron, should be used; Sedatives will sometimes prevent the irregular action of the heart; of these Digitalis is most generally used for this purpose: commence with three drops of the Tincture, three times a day, and increase it to fifteen or twenty or thirty. Nothing should be allowed to trouble the mind. Blisters on the thighs are recommended by the highest authorities; cupping over the heart, also.

## THE DIAPHRAGM.

The Diaphragm or Midriff, divides the chest from the abdomen or belly. It is muscular and tendinous, contracting at each inspiration, drawing the lungs down, and relaxing during expiration. Hiccup is a spasmodic affection of the Diaphragm; drinking a little cold water, and holding the breath, will generally relieve it.



## ABDOMINAL ORGANS.

We shall now ascend out of the chest and go down the gullet into the lower story, as there is no door that opens directly from the chest or engine-room, into the abdomen or furnace-room of the human craft. The Esophagus or Gullet, is a muscular tube, which, by alternate contractions, beginning at the top, forces the food into the stomach. This is the reason why the food goes into the stomach in whatever position we may be placed—head over heels or heels over head.

## FOREIGN SUBSTANCES IN THE ESOPHAGUS.

When any substance gets fast in the throat, if it cannot be thrown up or pushed down, with a long, limber stick, with a piece of sponge tied to the end of it, it must be cut out. The gullet, called by physicians the Esophagus, terminates in the stomach.

## THE STOMACH.

The Stomach is a sack lined with mucous membrane, which is full of little follicles or holes that pour out the juices of the stomach; it has muscles in its walls that contract it in vomiting, assisted by the abdominal muscles. Vomiting consists in a reversed action of the muscles of the esophagus, stomach and first bowel; this is the reason why bile is thrown up. Bile is not in the stomach naturally, but it is poured into the first bowel. When vomiting takes place, the bile is thrown from the first intestine into the stomach and thence out at the mouth. The stomach is more likely to be deranged than any other organ.

## IRRITATION OF THE STOMACH.

In slight Irritation, attended with nausea and want of appetite, the best cure is to miss two or three meals, live light for a day or two, and use an injection once a day, exciting the action of the skin by a thorough washing.

## INFLAMMATION OF THE STOMACH.

Inflammation of the Stomach is characterized by a burning, violent pain in it, great thirst, a fever, and generally costiveness. Here you must bleed from the arm, if the patient is full of blood, and cup freely over the region of the stomach. Take nothing into the stomach but Slippery-elm bark or Flax-seed water, with ice in it; a little at a time; swallow small lumps of ice; give injections, and if the system requires nourishment, it must be given by injections.

Mustard plasters and Blisters must be put over the stomach. When the inflammatory action is somewhat reduced, give one grain of Calomel and one-eighth of a grain of Morphia every two hours, until six or seven doses are given. Nothing but the most simple substances must be taken for two or three days after an attack.

## DYSPEPSIA.

Dyspepsia is generally supposed to be a Chronic inflammation of the stomach; when the food is not properly digested there is heart-burn and water-brash, the bowels are sometimes costive and sometimes loose, the person becomes weak and poor, subject to fits of despondency.

Dyspepsia is generally brought on by excess in eating and drinking. The only way in which it can be cured is, by paying strict attention to Diet, Clothing,

and Exercise. Simple diet, composed of coarse bread, rice, weak broth and the like; cold water or milk for drink; using no grease; eating slowly; chewing thoroughly, and partaking of but two or three kinds of simple food at a meal; eating at regular times; rising early; using the flesh-brush, and exercising in the open air every morning before breakfast; using the salt-bath once a week; exercising freely during the day in the open air; keeping the mind at ease; wearing clean flannel next the skin; in a word, living temperately in everything, taking nothing in the stomach but what it can readily digest, and avoiding exposure. Two or three grains of Blue Pill, taken every night for a week or more, may be of use to correct the secretions, exciting the liver to action, and a little Rhubarb, or what is better, an injection once a day so as to produce at least one passage a day, until the habit is established at a certain time of the day, which should never be passed over unheeded.

After the irritation of the stomach has been subdued, a Tonic, for instance, five grains of Carbonate of Iron, four grains of Rhubarb, eight grains of Columbo, may be of use taken twice a day. I have seen the most inveterate cases of Dyspepsia cured by these simple means. If the stomach continues very irritable, even when nothing but milk is taken into it, one-eighth of a grain of Morphia with one grain of Calomel should be given three times a day for a day or two at a time.

#### THE DUODENUM.

The Duodenum, or first bowel, is often diseased with acute and chronic inflammation.

## INFLAMMATION OF THE INTESTINES.

Acute Inflammation of the Intestines is known by great tenderness on pressing over the abdomen, thirst, heat, vomiting of very offensive matter, and passing of dark, offensive stools, small, wiry pulse, prostration of the strength, and great anxiety of the person. When the disease is violent and the patient is robust, bleeding from the arm is necessary, and cupping over the seat of the pain; if the bowels are costive, give a dose of Castor Oil, mixed with a few drops of Laudanum, assisting the operation with an injection. While the symptoms are violent and no indication of prostration, for the first twenty-four hours generally give nothing but the Oil and cold Slippery-elm water; after the operation of the Oil, small doses of Morphia and Calomel, using hot Fomentations or even Blisters over the abdomen. After bleeding from the arm, the Warm Bath should be used. For several days after recovery, the patient should use no irritating articles of food or drink.

Chronic Inflammation of the Intestines should be treated very much in the same manner as Dyspepsia, using counter-irritation over any painful part.

## LECTURE VI.

### LIVER COMPLAINT.

WHAT is called the Liver complaint should be treated also after the same manner. Calomel or Blue Pill should be used in Liver complaint, until a healthy action of the liver is obtained. The Mineral acids are useful in this complaint, both to take internally and to use externally, bathing the bowels, and the feet and legs with a water made slightly acid with equal parts of Muriatic and Nitric acids. Nitric Acid (called Aquafortis), when taken internally for Liver complaint, should be diluted with nine times its weight of Rain-water, of this from ten to thirty drops should be taken three times a day.

### DYSENTERY.

In Dysentery, which is an inflammation of the last bowel, called the Rectum, there is great pain, and griping, and a constant desire to go to stool; it is often called the "Bloody Flux." At the onset of the disease, if the symptoms are violent, Bleed from the arm, if not, Cup freely over the lower part of the abdomen or over the small of the back, give an active Purgative to clear out the bowels thoroughly, then inject a teaspoonful of Laudanum in a little Starch-water, giving nothing by the mouth but mucilaginous drinks of Slippery-elm water or Flax-seed tea, with perhaps



one grain of Calomel with two of Dover Powder, every two hours, until the symptoms abate. After Bleeding from the arm, the Warm-bath should be used. Astringent substances should not be used at first, and when they are used afterward, the Dysentery continuing, they should not be taken by the mouth, but injected. A decoction of Oak-bark is perhaps best, or a teaspoonful of Sugar of Lead put in a pint of Water, But three or four ounces of fluid should be injected at a time, and this should be cold. If these means fail, a large Blister should be put over the lower part of the bowels.

## PILES.

Piles are little round tumors which grow in and near the opening of the lower gut; they are produced by sitting a great deal or riding on horseback. They occur oftener in persons who do not take much exercise; and they may be produced by a too frequent use of Aloes or of the Patent Pills, nearly all of which are composed of nothing but Aloes, Gamboge, and Compound Extract of Colocynth, with a few other ingredients to disguise their composition.

Piles are very common in females when with child. They are very apt to bleed, and weaken the person. The best way to avoid them is to use Coarse and Simple Food, so as to keep the passages of the bowels soft, be on the feet as much as possible, use Rhubarb or Oil, if necessary, to keep the bowels regular.

*Local Applications to the Piles.*—Cold Water is excellent mixed, perhaps, with a little Sugar of Lead or Oak-bark Tea or a Decoction of Nut-galls. An ointment, made of Blue Mercurial Ointment, Sugar of Lead, and Extract of Jamestown-weed, is excellent.

When the Piles hang out and are large, they should be cut off or the neck of them should be tied and then suffered to rot off.

#### HERNIA.

A Hernia or Burst is the passage of the intestine through some hole in the walls of the abdomen; it is apt to occur in infancy from straining, crying, or from injury. Herniæ are generally at the navel, in the groin, or in the bag of the testicles. When they occur, the intestine should be gently passed back and a compress put over the hole, where the intestine came out, and kept there until the hole grows up, which will soon take place in children; a truss is the best for this purpose.

We come now to speak of certain peculiar affections that attack different parts of the body, and first of

#### RHEUMATISM.

Rheumatism is of two kinds, the Acute and Chronic. Rheumatism may exist in the muscles or in the joints. In the Acute there are all the symptoms of fever, with violent pain in the rheumatic parts; this species of Rheumatism is treated by Bleeding, Mercurial purges, Cupping over the part, the application of Cold Washes, Compresses, after which the internal administration of Opium, Digitalis, or Hyoscyamus.

Chronic Rheumatism is attended with pain but no fever; it exists in the joints principally, shifting from one to the other. It is generally produced by strains and injuries of the joints. Here the internal administration of Alterative Medicines, or such as alter the whole system slowly without any visible action, are indicated, such as the Blue Pill, the Hydriodate of Potassa with Sarsaparilla; keeping the general system

in an unirritated, calm state by the use of simple food. In fact, there is no condition of the system but what a careful regulation of the diet, clothing, exercise, and cleanliness, using temperance and regularity in all things, will aid the action of medicines, in many cases effecting a cure without the use of medicines.

Beside the Alteratives in Rheumatism some other medicines are valuable, such as Indian Hemp, the Tincture of Guaiacum taken internally, twelve or fifteen grains of the Gum taken three times a day, or from twenty to thirty drops of the Tincture of Colchicum three times a day, unless it purges too severely, then lessen the dose; at the same time washing the part twice a day with Tincture of Iodine, bandaging it afterward tightly with flannel bandages. In bandaging, the bandage should be about three inches wide, and rolled up tightly commencing at the extremity of the limb, and winding it upward evenly, turning the bandage when the limb begins to grow larger so as to have the compression equal from the extremity upward. Blisters and Stimulating Liniments are also good.

Acute Rheumatism sometimes goes from the muscular structure of some limb to the muscular structure of the heart, causing sudden death. When Rheumatism leaves one part for another, it attacks the same kind of a structure as it leaves; if it leaves a fleshy part it goes to a fleshy part; if it leaves the serous membrane of a joint, it goes to a serous membrane.

#### GOUT.

The Gout is a disease similar to rheumatism. It differs from it in the suddenness of its attack, in its being confined to the smaller joints, in the deposition,

in Gout, of chalky matter in the smaller joints, and in its almost invariably being produced by too high living. It is a very common disease among the wine-drinking nobility of England.

The TREATMENT is to correct the general system, keep the bowels open, giving Opium internally and bathing the limb with soothing applications during the violence of the attack. A mixture of Laudanum, Camphor, and Alcohol is a good wash. The use of the Tincture of Colchicum, as in rheumatism, is highly recommended. During the intervals of the attack, the patient should correct his intemperate habits, so as to prevent a recurrence of the disease.

#### DROPSY.

Dropsy is an accumulation of the serous part of the blood in different parts of the system; sometimes in the limbs, sometimes in the abdomen, sometimes in the chest, and about the heart, and sometimes in the head. When it is recent, and attended with excitement of the system with fever, depleting remedies should be used, as general Blood-letting, Cupping, Active Cathartics, such as Eleterium or wild Cucumber; Jalap and Cream Tartar; from ten to fifteen grains of Jalap, four grains of Calomel, and three drachms of Cream Tartar repeated every four or five hours, until free purging is effected, using light diet. When the disease has existed a long time, Squill, with small doses of Calomel is very useful, keeping the skin in action by daily frictions and the Salt-bath. If there is debility, Tonics of Iron and Bitters are good. Try to ascertain the seat of the disease, and remove it. Children are frequently affected with dropsy of the head. Keeping the skin in action by

frequent Bathing, light diet, rubbing the head with Mercurial ointment and the use of Blisters, frequently removes it. When there is a large collection of water in the abdomen, chest, or head, it should be drawn off by an experienced physician. I have seen two large pailsful drawn from the abdomen of a patient at a time. Compressing the dropsical parts with bandages, will sometimes cure it. Some cases are reported to have been cured, by using Alder bark in Wine.

## PALSY.

Palsy consists of a loss of feeling or motion in a part. Sometimes there is a palsy of the whole of one side of the body; in this case, the cause is generally situated in the opposite half of the brain; the brain being divided into two parts, the right and left hemispheres. Sometimes the legs and hips are palsied; the cause in this case is probably situated in the spinal marrow. If you cut off the spinal marrow in the small of the back, you paralyze all the lower parts of the body, which derive their nerves from the lower part of the spinal marrow. If you cut off the spinal marrow above the chest, you destroy life instantly, by paralyzing the vital organs. When the cause of palsy exists in the brain (which is generally the case), it may arise from some unnatural growth or collection inside the skull, a thickening of the skull itself, or a depression of the skull from an injury. If it cannot be absorbed away by an extremely light diet, the use of Blue Pill, Mercurial ointment, Hydriodate of Potass, Cupping along the back, or by a surgical operation called Trepanning; there is but little hope of recovery. Rubbing the palsied part with irritating substances, such as Mustard and Pepper, Hartshorn,



Blisters, etc., is useful; also, the passing of Electricity through the part, and the use of the Shower-bath on it. Where palsy is recent and sudden, without any serious affection of the head, it is probably owing to some derangement of the bowels, and is removed by an active Cathartic.

## CONVULSIONS OR FITS.

Fits, when produced by worms, are prevented by the use of Turpentine—a teaspoonful three times a-day; half a teaspoonful to a child, worked off with oil, if necessary; or Pink and Senna; ten grains of Pink root, and fifteen grains of Senna, steeped in boiling water, given twice a-day, or a few drops of Worm-seed Oil, given four or five times a-day. Children using much common salt with their victuals, seldom have worms. When fits are produced from other irritating substances in the stomach or bowels, an Emetic, afterward an active Cathartic are indicated; give an Emetic of twenty grains of Ipecac., and two of Tartar-emetic, assisting its action with Chamomile tea; afterward, four good-sized Pills, composed of equal parts of Calomel, Rhubarb and Aloes; repeating two Pills every two hours, until an operation from the bowels is produced; taking no food but thin Water-gruel, and no drink but Cold Water. This course, with the Warm-bath, will not only remove fits, but a great many other diseases and bad feelings that are produced by an accumulation of irritating substances in the bowels. If the person's bowels are very torpid, hard to be acted upon, use the same number of Pills, composed of equal parts of compound extract of Colocynth, Scammony, and Aloes. Where fits become habitual, increasing in frequency, and destroying the mind, notwithstand-

ing the foregoing efforts to remove them, the cause is probably situated in the brain; and if it cannot be removed by a surgical operation, by the use of certain mineral Tonics, as Nitrate of Silver, Bismuth, Carbonate of Iron, and Blisters or Setons along the back, it may be considered a hopeless case. This variety of fits is called Epilepsy. During a convulsion, cold water should be poured on the head.

#### APOPLEXY.

Apoplexy is caused by the rupture of a bloodvessel in the brain, by which blood is poured out, compressing the brain; or it is produced by the pouring out of the serous part of the blood without the rupture of a bloodvessel.

The rupturing of bloodvessels is the most frequent cause. Persons of a full habit, fleshy, with thick, short necks, are most liable to be attacked by it. When a person is attacked with apoplexy, which is generally brought on by violent exercise of the body or mind, the violent action of the sun, he falls down, breathes slow, afterward, convulsively, snoring and foaming at the mouth; the eyes and face are flushed and distorted, the pupils dilated, the eye looks dull and fixed; sometimes blood bursts from the nose. It is often a fatal disease; if he gets over it for a time, he is apt to have it again, and generally is attacked with Hemiplegia (paralysis of half of the body). The treatment must be of the most vigorous kind. Recollect, that the pressure of blood on the brain, is the cause of the disease; the only hope we have to draw away the accumulated blood, is by bleeding. Open a vein in each arm; make a large orifice, and bleed largely and frequently until the symptoms are changed, have the patient put in a cool place, where there is

fresh air; let his head be elevated; put his feet in hot water, and put the coldest water to his head; pour several bucketsful from a pitcher or a coffeepot, from a height on his head. As soon as you use these means, give active purges, Calomel and Jalap, and Colocynth; if the patient cannot swallow, drop four or five drops of Croton oil on the tongue.

Persons of an apoplectic habit, should always be on the guard against an attack; if they become plethoric, that is, full of blood, and feel an unnatural fullness in the head, they should ward off an attack by light diet, saline purgatives, such as Salts and Magnesia, or Cream of Tartar; they should sleep with the head elevated; should avoid a full supper, and never have any tight ligatures around the neck or body.

#### HYDROPHOBIA.

Hydrophobia means literally, fear of water. This definition is perhaps questionable, inasmuch as dogs, when first attacked, drink freely, and it is only when their throats swell, so that they cannot drink, that they make such spasmodic motions when they attempt it. This disease originates almost invariably, in the canine species; from what cause, we know not; their bite communicates the disease to every animal; to all, it is equally fatal, more particularly so to man. The poison may lie dormant in the system, from ten days to as many months.

When a person is attacked he first feels a pain in the part bitten, extending up along the nerves going from the part; he feels a drowsiness and fullness of the head. He soon becomes excited, he is agitated from the slightest causes, fearful, his eyes become unnaturally brilliant, he is sick at his stomach; after a

while he becomes unable to swallow liquids, gasping like a drowning man every time he attempts it; he raves; in a few days death terminates the melancholy scene.

When a person is bitten by a mad dog, he should wash the part constantly with the nearest water he can get—warm water if possible; pour it on the part from a height; inject it with a syringe; tie a string tightly around the limb above the bite; suck out the wound with the mouth (there is no danger in taking it into the mouth), or put a cupping-glass over the wound; keep washing this way for fifteen or twenty minutes, then cut the edges of the wound out with a sharp knife. Where a tooth has gone into the flesh, take a sharp pointed stick, put it into the place made by the tooth, and then cut the part all round the end of the stick, so as to take out a little cap of flesh on the end of the stick; when this is done, cauterize the whole wound with Nitrate of Silver, or Caustic Potash, or Ammonia; then put on a Bread-and-Milk Poultice on which is spread an ounce of Mercurial ointment; keep the sore running for several days. When you have got the wound dressed give the patient a large dose of Calomel and Opium, three grains of Opium and fifteen of Calomel, and let him go to bed and sleep as long as he can; after eight or nine hours, if the bowels are not open, give a purgative.

If, however, the disease attacks the person, medicine knows of no certain remedy. Trust not, I warn you, to the trifling herbs which are said to have cured Hydrophobia; they never did. There is but one means I should have any confidence in after the disease has commenced—it is the means I should use if I were attacked with Hydrophobia. It is the remedy for the

bite of poisonous snakes and insects, and in every case of this kind, has cured the patient. I would say, by the way, that the bite of a poisonous reptile is to be treated, at first, in the same manner as the bite of a mad dog.

If then a person is attacked with the singular disease arising from the bite of a venomous serpent or insect, or of a mad dog, or from a wound received in dissecting a dead body, he should first cauterize the part wounded with Caustic Potash, Nitrate of Silver, or a red-hot iron; then commence drinking Spirits, Whisky, for instance, drinking and walking until he can walk no longer; keep him dead-drunk as long as there are any active symptoms of the disease for thirty-six or forty-eight hours. If Spirits don't do the business properly, combine them with Opium. This treatment will cure the bite of poisonous snakes, and I don't see why it will not cure the bite of the mad dog. It is the remedy I should use in my own case, and the only one I should have any confidence in after the paroxysms have commenced. If the Spirits cannot be taken by the mouth, they should be injected. Chloroform might be used.

#### CANCER.

Cancer is another of the diseases that too frequently, like consumption, diseases of the heart and of the nervous system, baffles all human skill. It attacks many parts of the body, but generally the nose, lips, eyelids, breasts, uterus, and testicles. It first appears as a hard, bluish lump which can be moved about with the finger, and from which goes a darting pain. Some cases are reported to have been cured, when taken at first, by compression and by the application of substances to stop at once the irritability of the part, as



preparations of Arsenic, or Corrosive Sublimate, or the Iodide of Mercury. Take ten grains of Corrosive Sublimate, put them in two ounces of Water, dip a little rag in it and lay it over the part once a day. The only sure remedy there is, and this is sometimes not sure, is extirpation, cutting it out before the disease has time to affect any other part. When it occurs in the breast, for instance, cutting it out before little lumps appear in the direction of the armpits and in the armpits.

#### AFFECTIONS OF THE KIDNEYS AND BLADDER.

Active Inflammation of these parts is to be treated by the general reducing plan spoken of in internal inflammation and by Cupping on the outside. Where there is a long-continued disease of the Kidneys, an irritation should be kept up on the outside by Tartar-emetic Ointment, Setons and Cupping, with the internal use of Mucilaginous drinks and teas of Uva Ursi or Buchu Leaves.

When Stone exists in the Bladder too large to be discharged by the Urethra, the only remedy is an operation, either with instruments to crush the stone or to cut it out.

#### EXCRESCENCES ON THE SKIN.

Little hard growths on the skin, as Corns, Warts, Moles, are cured by first moistening them an hour or more in warm water and then paring them down till the blood appears, then cauterizing them with Lunar Caustic, Caustic Potash, or Aquafortis, or a red-hot Iron; afterward put a little Cotton over them, and if it is a Corn, wear a loose Shoe for a few days.

## ASPHYXIA FROM DROWNING.

In cases of Drowning the subject should be stripped and wrapped in a warm Blanket, the limbs, back and body should be rubbed well with stimulating substances, as Mustard, Turpentine, Ammonia. Warm Spirits should be passed into the stomach by a stomach-tube. Artificial respiration should be resorted to; hold the nose of the patient with one hand, and then blow into the mouth with the mouth of the operator, pressing on the chest, after each time he blows, so as to imitate the natural respiration; if a pair of bellows is used, hold the mouth and put the muzzle into one of the nostrils, holding the other nostril; don't blow hard; blow and press on the chest afterward about twenty times in a minute.

## SHOCKS FROM LIGHTNING.

Persons that are struck by Lightning should be dashed with cold water, stimulating substances being rubbed on the surface at the same time, to bring back the spark of life. In fact, the treatment for drowning would, in the main, be appropriate for those struck with lightning or for poisoning, with sedative, sleep-producing substances, such as Opium, Poison, Hemlock, Henbane, Foxglove, Deadly Night-shade, Jamestown Weed.

## POISONS.

## TREATMENT FOR POISONING FROM NARCOTICS FOR OPIUM AND THE ABOVE MENTIONED SUBSTANCES.

After the Stomach has been emptied (which should be the first thing done in poisoning from any substance) with an active Vomit, for instance, twenty grains of White Vitriol, dissolved in a teacupful of

water, or Ipecac. twenty grains, and Tartar-emetic two grains, or with the Stomach-pump, Stimulants, such as hot Coffee, should be given, using friction continually and keeping the patient awake and in motion. For poisoning from any of the preparations of Opium, the treatment would be the same as from the Gum Opium as from Laudanum, Morphia, Paregoric, or Black drops.

Poisoning from Arsenic is remedied by the internal use of the Hydrated Peroxide of Iron, a bottle of which should be kept constantly at hand when arsenic is about; by taking it freely it changes arsenic into a harmless substance. When Corrosive Sublimate is taken the whites of eggs should be given as much as the stomach can hold. When the Mineral acids, as the Nitric, Sulphuric, or Muriatic are taken, weak ley of Ashes, Magnesia or Soap should be taken freely. When Caustic Potash or Lime, or any other caustic alkalie, acids should be taken, as Vinegar, Diluted Sulphuric or Nitric acids. When an Emetic is given to throw up a poison, it is assisted by a Poultice placed over the stomach, of Tobacco steeped in vinegar.

#### HYSTERIA.

Hysteria, commonly called "Hysterics," is a nervous disease, caused by indolence, affections of the mind, improper food, and the like. The Cold-bath will most always check an attack; if there is much fullness of the system, Bleeding is necessary, followed by medicines to allay the irritability of the nervous system, as Valerian, called by some Nervine or Lady Slipper root, Assafoetida, Camphor, and, perhaps, Opium.

## DELIRIUM TREMENS.

This is a disease of the Nervous system principally, in conjunction with much irritation of the Stomach, caused by an excessive use of spirituous liquors. The patient is restless, sleepless, has trembling, the most horrid apparitions before his eyes continually; imagining his life is to be taken by hobgoblins that surround him. The treatment of Delirium Tremens varies according to its occurring while the patient is drinking excessively, or, from a habitual drinker, being suddenly deprived of his cups. In the former a Depletive and Sedative plan must be pursued; in the latter Stimulating and Sedative. In the former stimulating injections must be given, so as to open the bowels thoroughly; give internally pills of Scammony, Compound Extract of Colocynth and Aloes; perhaps Bleeding will be necessary. After the bowels are open give Laudanum, Camphor, and Assafoetida until the nervous system is quiet, until sleep is produced. Where Delirium Tremens occurs from depriving the patient of his accustomed drams to the above treatment, his accustomed quantity of spirits must be given until he recovers from the attack; and then if he wishes to stop the use of them he can do it gradually.

## WOUNDS.

We now come to Wounds. A simple cut wound, called an Incised wound, is the simplest; its edges should be brought together and be kept there by bandages, strips of sticking-plaster (that is, common sticking-plaster, spread on muslin, and then cut in narrow strips), the plaster on the strips being melted, they should be drawn across the wound; if a muscle

is cut across whose contractions would tend to draw the edges of the wound apart, stitches should be taken every two or three inches. Let each stitch be separate. If a large bloodvessel is cut off, it must be tied, letting the ends of the string hang out of the wound. The parts should be kept at rest, and the dressing should not be removed for four or five days. In what is called Punctured wounds, where an instrument pierces the body, if there are any foreign substances in the wound that will produce irritation, they must be taken out, bloodvessels tied if they bleed alarmingly, and the parts must be held together by bandages as much as possible, and kept perfectly still; if there is feverishness in the system it may be necessary to bleed, and give saline cathartics.

Lacerated wounds are those produced by a blunt instrument, by the kick of a horse, for instance; where the edges of the wound are jagged and the parts bruised, the wound does not heal so readily as a simple incised wound. This kind of wound however, bleeds but very little, from the fact that wherever a vessel is bruised or twisted off it bleeds but little; but where it is cut smoothly off it bleeds much more. Some surgeons twist quite large vessels instead of tying them to stop their bleeding. In lacerated or torn wounds the parts should be washed clean, every foreign substance, such as dirt, hair, and the like, should be carefully removed from it, and the parts brought together by strips of adhesive plaster, and moderately tight bandages; if the inflammation of the part becomes too violent, cold applications must be applied: Cold Sugar of Lead-water is a good application; at the same time reducing the action of the system by light diet, salts, and bleeding, if necessary.



Large bloodvessels are frequently cut off which it is necessary to tie ; if the blood, on issuing from the vessel, be dark, and runs in a continuous stream, it is a vein that is cut, and in tying it you must tie the cut end, that is, farthest from the heart, for you are aware that the blood in the veins runs from the circumference to the centre of the body, to the heart. If the blood, on issuing from the wound, is of a bright-red color, and comes out in jets, it is an artery that is cut, and here the cut end nearest the heart must be tied ; because the arteries carry the blood from the centre to the circumference of the body or from the heart. If the artery is a large one, it is necessary to tie both extremities, for there are no valves in the arteries as in the veins, to prevent the blood running in a backward direction.

The arteries are not so apt to be cut as the veins, because they are more deeply seated. If the vessel is not too large, the bleeding can be stopped simply by scraping up some cotton, and putting it at the extremity of the vessel and then compressing it slightly. When a bloodvessel is cut which passes over a bone, as the vessels of the wrist or of the temples, a little pyramid should be made of pieces of muslin of different sizes, the smallest being put on first, and then a larger, and so on, and then a tight bandage should be drawn round the part so as to press directly on the vessel. A great many lives might have been saved in cases of wounds, if the by-standers had only known how to compress the bloodvessels until medical aid could have been obtained.

## LECTURE VII.

### WOUNDS OF THE ABDOMEN.

SLIGHT wounds of the Abdomen, not penetrating the intestines, should be drawn together with strips of Adhesive plaster, with, perhaps, a few stitches, and treated as a simple wound; if the intestines protrude they are to be carefully returned, and the part drawn together—nothing should be given to evacuate the bowels, and the lightest diet should be prescribed. If fever occurs, free bleeding should be resorted to. If the intestines are cut, blood is vomited and passed by the other passages; the patient rapidly sinks: there is not much hope here in any treatment.

Wounds of the Neck are treated by tying the large vessels that are cut, bringing the parts together with separate stitches and by low diet.

In wounds of the Gullet, and in fact, in nearly all severe wounds of the throat, the food should be introduced into the stomach by a Gum-elastic tube passed into the stomach through the nose; the chin should be fixed on the breast-bone until the wound heals.

Slight wounds of the chest are to be treated as elsewhere; when they penetrate into the lungs, indicated by wind passing out of the orifice, the orifice should be closed to prevent wind from entering it, and a bandage applied; if blood collects there, it must be let out of the wound, as also when it collects, in wounds

of the abdomen. The patient should avoid talking and coughing as much as possible: low diet, and depleting remedies should be used.

In gunshot wounds, if the bone is much shattered, the limb must be taken off. If the fleshy parts are wounded only, first take out the foreign bodies, such as pieces of clothes; the ball, if it can be found, tying large vessels if they bleed much and dress the wound with lint, over which, put a piece of muslin, on which is spread an ointment of equal parts of Lard, Tallow, and Beeswax. Gunshot wounds generally bleed but very little, because the tearing of the vessels causes the ends to contract. But afterward when the ends of the vessel slough off, bleeding is apt to recur with greater violence. In a very violent wound, where the general system sympathizes, causing the person to be restless, it is best to give a large dose of Opium, so as to put the system to sleep, and make it forget the injury done to it, and not resent it by too excessive reaction.

In common bruises and sprains, apply cold water to the part; keep a rag wet with cold water, around the limb continually. If inflammation takes place, reduce the general system by light diet, and purging. When a person has received a shock so as to render him insensible, and you cannot detect a pulse, don't bleed immediately, but wait till reaction takes place, and you can tell better whether bleeding is necessary. While the person is pulseless, rather use stimulants, such as Hartshorn or Camphor until he revives. When bleeding occurs from a vessel that you cannot tie or compress, as in the extraction of a tooth, apply some astringent, such as Ice, Sugar of Lead, Alum, Nut-gall, or the Nitrate of Silver.

And here I will remark, that when hemorrhage or bleeding occurs from the stomach, lungs, bowels, or excessive bleeding from the uterus, and the person is strong and plethoric, open a vein, and bleed in the sitting posture until fainting. When fainting occurs, it seems to have a potent influence in arresting hemorrhage in any part of the body. If, however, the bleeding continues, give Ice-water and small doses of Sugar of Lead, and apply cold applications over the surface. If it be uterine hemorrhage, inject cold water into the uterus, or what is better, Cold water with Sugar of Lead, a pint of the former to a teaspoonful of the latter, injecting a couple of ounces at a time. If given internally, three or four grains every two hours, until the hemorrhage stops. If Sugar of Lead is not at hand, Alum-water, or a decoction of Oak bark, or Gall-nuts will answer.

Hemorrhage from the nose may be stopped by cold applications to the face, head and genitals, or by blowing Tannin up the nostrils, or by plugging the nostrils before and behind.

Hemorrhage from the lungs should be treated by inhaling astringent vapors; vapor from water saturated with Tannin. Frequently hemorrhage is an effort of Nature to relieve some congested organ, and should not be interfered with, as where there is a stoppage of the menses or monthly discharge.

Wounds of the head are always dangerous, and if there is any probability of the skull being broken, which is generally known by the person being stupefied, appearing as though in a deep sleep, the brain is evidently compressed, either by a depression of the bone or an effusion of blood inside the skull. A skillful surgeon is here absolutely necessary to elevate the

bone if it be depressed. If the pulse is full and the person comatose and snores, Bleeding and cold applications to the head, as in apoplexy, is all that you can do. When the tendons of muscles are cut off, as those of the Wrist or the Hamstrings, or the tendon of the heel, the limb must be flexed, bringing the cut ends of the tendons as near together as possible, at the same time, bandaging along the course of the muscles, so as to keep the muscles at rest until the cut ends of the tendons unite. From the imperfect healing of wounds, as well as from exposure to wet and cold and the taking of indigestible substances into the stomach, a peculiar and dangerous condition of the nervous system is sometimes induced, called Lockjaw. It is most frequently produced by sticking forks or needles, thorns, or rusty nails into the hand or foot. It often occurs from gunshot wounds, when part of a nerve is divided, leaving the other part in an irritable condition. The symptoms are a stiffness of the back and neck, with an uneasy sensation at the root of the tongue, difficulty in swallowing, a fixed state of the jaws; the spasms recur every ten or fifteen minutes, increasing in frequency and severity, until the patient is carried off, unless relieved. If the patient be of full habit, robust, bleed freely from the arm; then give large doses of Opium; if it cannot be given by the mouth, inject Laudanum and Starch water; don't give it by the dose, but by the effect it produces. A person in this disease frequently requires three or four times as much as in ordinary cases. If you inject it, use two or three teaspoonfuls of Laudanum every two hours, until the spasms are released. The Warm-bath is recommended, and also Douches with Cold water. If it arises from a nerve partly divided, the nerve must



be cut off entirely ; the original wound must be opened again with Caustic.

## FRACTURES.

The Fracture of a limb is simply the breaking of the bone of the limb ; it may also be attended with a wound of the fleshy parts around the bone, and the tearing off of large bloodvessels ; the ends of the bone may be pushed through the flesh. Where there is a simple fracture without other wounds, you can detect it by rubbing the ends of the bones together, by which, a grating is produced. The Treatment is, to put the ends of the bones together, place the limb in its natural position, noticing that it is as long as the other limb ; then winding the limb with a bandage ; then putting thin cotton batting along where you want to apply the splints of shingle or pasteboard, and when these are applied, winding the whole again with a bandage ; the limb must then be kept perfectly quiet for several weeks, held in such a position that all the muscles will be in a relaxed condition. If there is a flesh wound with the fractures, the large vessels that are ruptured must be tied ; foreign substances must be removed ; the broken bones put in as natural a position as possible ; the external wound must then be dressed as a simple wound, and the whole done up in bandages and splints.

When the thigh-bone is broken, some kind of an apparatus is necessary to keep the limb extended, so that when it unites together, it will be as long as the other limb.

The best way of treating fractures of the thigh, is, to let the patient lie on a straw bed, with the leg extended ; then take two pieces of board, about three or four feet long, and eight or ten inches wide ; one

is to be placed on each side of the leg; the upper end of the inner one is to be cushioned, which is to be pressed up against the groin; there is to be a cross-piece at the bottom, to which the foot must be tied, keeping it down, so as to be of the same length as the other leg; it must be kept in this position until healed.

When the joint of a limb is affected, and a stiff joint—Anchylosis—is threatened, the limb must be placed in that position, it would be most convenient, if stiff, to perform the ordinary duties of life. If the fracture is in the knee, the leg must be kept straight by being bandaged in a box filled in with cotton batting, so as to keep the leg in the same position.

If the fracture is in the elbow, it must be bent to a right angle, because if the joint becomes stiff, the fore-arm would be more useful if at a right angle with the arm. In fractures, as dislocations of all other bones, bandage and splint them in the right place, and keep them so, till healed.

#### DISLOCATIONS.

In a Dislocation, or when a limb is put out of joint, it should be returned to its place as soon as possible; and if a surgeon cannot be soon had, it is better for others to attempt it, than to wait until swelling and inflammation take place, when it will be much more difficult to put it in place. You can tell when a bone is out of place, by the limb being of unequal length with the corresponding one; by the end of the bone being out of its accustomed place; by pain, and by an inability to move the limb. When the large limbs are out of joint, as the thigh, leg or arm, put a roll of muslin between the legs or under the arm, as the case may be, which is to be held by assistants behind

the patient, or which may be tied to a post, in order to hold the patient when the limb is pulled; then wind another wide strip of muslin around the limb, with which other assistants are to draw the limb lengthwise—yourself pull the end of the dislocated bone a little out from the end of the other, and it will generally slip in its place readily. The shoulder can generally be put in its place in this manner. Let the patient lie down, and put your foot in his armpit; grasp with both hands his wrist and fore-arm; get him to tell you all about the accident, and while he is off his guard, draw the arm suddenly, and the end of the bone will slip in; the arm should afterward be bandaged to the breast for some time; in fact, after all dislocations, the limbs should be kept quiet for some time afterward, until the ligaments which held the ends of bones in their joints contract and recover from the great tension to which they have been subjected.

In dislocations of the smaller joints, as the wrist, fingers, or collar-bone, the same principles of extension and counter-extension will apply, drawing the ends of the bones slightly from one another, until they come in place, and then keeping them in place by splints and bandages for sometime afterward. The jaw is sometimes dislocated in gaping; here put on a pair of thick gloves, put your thumbs on the teeth, and your fingers below the jaw; press down with your thumbs; draw up and forward with your fingers, slipping your thumbs between the jaws and lips when it goes in joint, or else they will be bitten. In fracture of the lower jaw, the jaw should be tightly bound to the upper one; a little pasteboard splint should be bandaged over the broken part, the bandage going over the head; nourishment should be sucked through

the teeth or injected. If the limbs cannot be returned to their places in this manner, bleed, use the Warm-bath, and nauseating doses of Tartar-emetic until the muscles relax, or use Chloroform.

## AMPUTATION.

In case of a limb being torn to pieces, where it is necessary that it should immediately be taken off, and a surgeon cannot be obtained, the limb can be taken off very easily and safely by very simple instruments, and by any person who has a little courage. Provide yourself with a straight Carving-knife, very sharp, a very sharp Penknife, a few waxed linen or silk Strings, a Needle, a pair of small Pinchers, a piece of Muslin two feet long, torn in the middle, a long Bandage rolled up, a piece of old Muslin spread with Lard, or Ointment made of Lard, Tallow, and Beeswax, and a carpenter's Back-saw, or Saw with a piece of iron on the back to keep it stiff; give the patient sixty drops of Laudanum; then above the part to be cut off, tie a handkerchief, and twist it round with a stick, so as to compress the arteries of the limb, and prevent excessive bleeding; now make an incision around the limb through the skin, so as to form one large flap of skin that will cover the end of the amputated limb, or two flaps, which, meeting in the middle of the end of the limb, will cover it that way; dissect the flaps up, and let them be held by an assistant; then with the large knife cut the fleshy part of the limb around down to the bone; put the piece of slit Muslin so that one slit shall be on each side of the bone, and let an assistant hold the cut parts of the limb up with the muslin, while you saw off the bone, smoothing off the edges of the bone afterward; then tie the bloodvessels,

letting the strings hang out of the wound ; draw the flape together ; put a few separate stitches through them ; then draw them together with strips of adhesive plaster, over which, put the ointed Muslin ; then roll the whole up snugly with the bandage.

## CHOLERA.

The Cholera is one of the greatest scourges that ever afflicted mankind. The Hindoos have a tradition of its having existed many hundred years ago. The first authentic accounts however, that we have of it was in India, in 1787.

It continued to prevail more or less in India, exciting no great fear in other nations, for it was supposed to be peculiar only to that country, as we suppose the Yellow fever to be peculiar to the southern seaboard, until 1817, when the epidemic became alarming, spreading over a large portion of India. It attacked the English army, then engaged in subduing India, five thousand men of which were cut down in five days. In 1818 it became nearly extinct. The next year, however, it revived, and in 1820 and 1821 it spread over a great part of Asia, Java, and the East India islands, and westward through Persia and Asiatic Turkey. In 1823 it first appeared in Europe, in Russia. It seemed to slumber again during the six following years. In 1829 it broke out with fresh violence in Persia. In 1830 it became extinct again. The following summer it re-appeared on the frontiers of Persia and Georgia ; it extended northward to the Arctic Ocean, and westward through the western divisions of Russia and Poland, committing most fearful ravages, increasing in power as it progressed. In 1831 it extended over the most of Europe.



Its ravages were not so dreadful in Europe as in Asia. In 1832 it first broke out in Montreal; thence it rapidly spread over the United States. It did not seem to be influenced by locality; the high, the low, the dry, the wet, the cold, the warm places seemed to be attacked indiscriminately. It was not contagious, for physicians and nurses, who were among it constantly, seemed to be more exempt than any others. Some physicians, for an experiment, wore the clothes in which patients had died; they inoculated themselves with the matter of their bodies; they eat some of the excretions of the Cholera patient without any bad effect.

The reason why it prevailed worse in cities than in the country was, that the air, water, and food in cities are not so healthful as in the country. The constitutions of city people, from excesses of various kinds, are much weaker and not so capable of withstanding disease as those of country people; this is the reason why epidemics of all kinds, as well as the Cholera, are more fatal in cities than in the country.

The cause of the disease seemed to be in the atmosphere. It seemed to prevail more when the east wind blew. Many places to which no human being, or animal, or article of any kind had arrived from an affected district were suddenly desolated by this scourge. Its singularity, in spreading itself, seemed to justify the theory of many celebrated physicians, that the disease was carried by insects through the atmosphere. In many places the disease was preceded by an unusual number of insects in the air, and by great changes in the atmosphere.

But what is the Cholera? We know what the symptoms are, but we do not know the cause. Nearly

every one has seen a case of cholera-morbus, that is, a violent fit of vomiting and purging attended with a clammy, cold sweat and great prostration. Epidemic, or as it is more generally called Asiatic Cholera, resembles cholera-morbus very closely, the Asiatic Cholera being much more violent.

*Symptoms of Cholera.*—In a great majority of cases, the patient is taken a few hours before the attack, with a diarrhea; at first the discharges are small, they are bilious, attended with some griping; they afterward become thin and watery with but little odor, and attended with but little pain. These are the only unpleasant symptoms the patient feels in the first stage; he does not notice them; and here is the fatal error. If these first symptoms were properly attended to, in nine cases out of ten, the disease would be checked. If, however, these premonitory symptoms are unheeded, the second, or sinking stage supervenes.

Now commence the horrid symptoms of Cholera; violent vomiting and purging of a thin substance resembling rice-water; cramps of the limbs and stomach; in a few hours great prostration ensues; a cold, clammy sweat covers the surface; the pulse can hardly be felt; the skin and fingers turn blue; the features sink; the eye is dull; the voice and hearing are lost; the stomach is so insensible that the most violent stimulants have no more effect than they would have on a leather pouch; the suffering stops, except a great oppression in the chest and at the pit of the stomach; the eye is turned up and very much bloodshot; the spark of life seems almost to have fled, and indeed in many cases it does depart in this stage.

This stage of sinking or collapse lasts from twelve to forty-eight hours—the patient being all the while of an icy coldness; if he revives at all, he first complains of a pain in the head, a sense of giddiness, and a low fever, resembling typhoid fever, sets in, almost as dangerous as the collapse itself. The teeth become covered with a brown sordes; the tongue is covered with a black coat; the eyes more bloodshot; the intellect more torpid; the discharges from the bowels more dark. This stage lasts from a week to ten days; its termination, in a majority of cases, is fatal. Even when the patient gets over this stage and is recovering, he is very liable to a return of the disease from the slightest improprieties. The more violent the sinking stage or stage of collapse, the more violent will be this stage of reaction. In fact, the danger of the disease is in proportion to the violence of the collapse.

The appearances on dissection are principally a great congestion of blood in the internal organs, the brain, the lungs, the liver, and the contents of the abdomen generally.

*How to prevent the Cholera.*—The means I should adopt to prevent the Cholera in my own case, would be these:—and from the practical testimony of hundreds, I should place great confidence in them. I should be temperate and regular in all things—in eating, in drinking, in clothing, in labor of body and mind, and in sleeping. I should endeavor by simple diet, by cleanliness, exercise in the open air, and freedom from care, to get my body in as healthy a condition as possible. As soon as I heard of the Cholera being in my own neighborhood, I should dispense with fear as much as possible. I should not go to

taking medicine and living too lightly, nor confining myself to the house ; but I would live just as if nothing was a-going to happen, and as though I expected to live to a green old age. The intemperate, the uncleanly and the fearful, are the first and most hopeless victims of Cholera ; recollect this, and act accordingly. When the Cholera approached near me, I should purify my house and clothing twice a day with Chlorine gas. I should do this regularly until the pestilence passed away, which is generally within a month.

The virtue of Chlorine gas as a preventative, has been proved by hundreds of experiments. The use of it in this case was suggested by its purifying power in other cases. Chlorine gas is produced by mixing three parts of common table salt in a glass vessel with one part of the black Oxide of Manganese ; then pouring two parts of Sulphuric Acid (oil of vitriol) mixed with an equal part of water ; a green gas will escape, which is Chlorine. Hang your clothes over the gas that it may go through them ; and let the gas go through every room of the house. The common bleaching powder (chloride of lime), or the liquid solution of chloride of soda will answer as a substitute, if the materials for forming chlorine gas cannot be obtained.

We come now to the treatment of Cholera, which should be known to every individual ; because the disease is so sudden that, in many cases, a physician cannot be obtained in time to do any good. The treatment varies in the first, second, and third stages. In times of its prevalence, when each individual is liable to an attack, if he is taken with a diarrhea, or looseness of the bowels, he had better go to bed at once ; keep the surface warm ; take a Warm or Steam-

bath into the water of which some stimulating thing may be infused, such as Mustard, Cayenne pepper or salt; the skin should afterward be rubbed thoroughly with a coarse tow towel, and the person should go to bed; then, perhaps, it would be best to take a dose of ten grains of Calomel and fifteen of Rhubarb to clear the bowels out. In the second stage, Mustard plasters should be applied over the abdomen, frictions with mustard should be used on the limbs, with hot applications, bottles of hot water or hot bricks. The person should be in a bed of warm flannels, while you are applying them; bags of hot Bran or Ashes, should be put to the extremities; the object being to prevent the congestion of blood in the internal organs by drawing it outward with external irritations: for it is a principle in medicine that, wherever the greatest irritation is, there will be the greater flow of blood. Give one quarter of a grain of Morphia, two or three grains of Cayenne pepper, and two grains of Calomel, every hour, or more frequently, if necessary, until the spasms cease; then decrease the quantity of morphia; should the weakness be excessive, Brandy toddy should be used; if the discharges from the bowels should grow more healthy, the Calomel should be stopped, or given in smaller doses. When the system re-acts again from the sinking stage and the febrile stage comes on, if there is much oppression of the brain, Cupping and Blistering on the back of the neck will be useful; give two or three grains of Calomel, every two or three hours, until bilious stools are produced. If there is a loose, watery diarrhea, combine your Calomel with Opium in grain doses; try and keep the heat of the body equable; if one part becomes cold, put warm applications to it, and rub it.



The patient must be very careful when recovering from the cholera, that he lives very temperately in every respect; in fact, through the whole of the disease, nothing but the most simple articles of diet should be taken; at first, nothing but mucilaginous drinks of Slippery-elm or Flax-seed; afterward, of Chicken-broth or Beef-tea.

## LECTURE VIII.

### ORGANS AND DISEASES PECULIAR TO THE MALE.

FOR the increase of the species, and for a due harmony between the sexes, they are created, each with its peculiarities ; which peculiarities would be useless or injurious to the individual, if they were not neutralized by the peculiarities of the individual of the opposite sex, with which the individual is connected. Thus man is created larger, stronger, with an inherent desire of governing in his heart ; his nature is such as to be equally powerful at all times ; whereas woman is created smaller, weaker, more timid, and with a yielding principle in her breast. In a physical and mental point of view, she herself is conscious of being inferior to her male partner ; hence she willingly subjects herself to him, and looks to him for protection ; beside, she has periods in her life when she is much weaker than at others, less capable of being independent of the assistance of others. The peculiarities of man, as distinguished from those of woman or she-man (as the word literally means), are the largeness of his size, a greater muscularity of his flesh, having less of fat, and more of muscle, the narrowness of his hips, his beard, his voice, and his organs of generation.

The male organs of generation consist of the Penis, Testicles, the parts connecting the two and muscles for the movement of those parts. The penis is composed

of a head called the Glans penis, and the body, composed of three bodies lying parallel to each other, of a loose, spongy texture, full of cells. When the Penis is not under excitement, it is small and flabby; but when the venereal passion is excited, the nerves going to a set of muscles connected with the penis are excited; these muscles contract, by which blood is injected into the spongy structure of the penis, and enlarges it, rendering it capable of being introduced into the female organs of generation, by which the semen or seed of the male is thrown into the vagina and womb of the female: this semen is a white fluid, formed by the testicles. There are two little bags called Vesiculæ Seminales, between the testicles and the penis in which the semen is collected as fast as it is secreted by the testicles. Around these little bags are small muscles, which when they become sufficiently irritated by the friction of the penis against the sides of the female organs of generation, contract with such force as to throw the semen some distance out of the penis. It is the presence of the semen in these little bags, in connection with the venereal passion, that excites the penis to become erect: for when these little bags are emptied of their contents, the penis will not become erect until more semen has been poured into them from the testicles.

The diseases to which the male organs are subjected, are, Inflammation of the Testicles from injuries and from measles; Hydrocele or an accumulation of water in the testicles; a hardening of the testicles, and the two Venereal diseases vulgarly call the *Clap* and the *Poe*; the former, called by physicians Gonorrhea, is a running of matter from the Penis, producing Strictures or difficulty of voiding urine, ulcerations, impo-

tence, and other bad consequences ; the latter, called Syphilis, is distinguished by sores, resembling small-pox sores, coming on the Penis, rapidly enlarging, and if not cured, the glands in the groin ulcerating, and afterward the glands of the throat, and the nose becoming eaten away. Both these diseases are caused by having connection with a female who has them. The matter of the specific disease only can communicate the same disease. Whichever disease the female has, the male will take ; if she has both, the male may take both. In the same manner, the male can communicate the disease to the female. It seems to be a punishment instituted by Nature, to prevent the indiscriminate mixture of the sexes of the human species, for these loathsome diseases are seldom, if ever known, where the bonds of matrimony are duly observed. And here, do we find a law of God most fearfully verified ; for literally are the sins of the parents visited on their children, to the third and fourth generation.

When a person is taken with Gonorrhea or Clap, a running of matter from the Penis, he should immediately go to bed and keep still ; take an active dose of Salts ; live on the lightest diet ; take no drink but Cold water. He should keep on the Penis a wet Rag, so as to keep it cool. In a couple of days, if it has not passed away, inject into the Penis, pressing one finger on the root of the Penis, so that the injection will not go into the bladder, a solution of Nitrate of Silver, two grains to an ounce of Rain water ; give internally a tablespoonful of the powder of Cubebs, and twenty-five drops of the Balsam of Copaiva three times a-day. If Strictures occur after Gonorrhea, attended with a difficulty of passing water, they must

be enlarged, by passing gradually in the Penis, Bougies or straight sticks of slippery Elm bark, made very smooth, (moistened first in water), of the size to pass through the stricture; let it remain in the Urethra half an hour every day; make the Bougie a little larger, until it is the size of the opening in the unstrictured part of the Penis. No violence must be used in introducing it.

*Manner of introducing the Bougie.*—Take hold of the Penis with the thumb and finger of the left hand, draw it out, and let the Bougie gently pass in, until it meets with a resistance, then hold the Penis down, and the Bougie will pass into the bladder. This is the way—a small, elastic, hollow tube, called a Catheter, is introduced into the bladder, when the mouth of the bladder is contracted, so that the water cannot pass out, or where the mouth is obstructed by a stone in the bladder, in order to draw the urine off.

Syphilis or Pox is characterized by contagious sores, first occurring on the Penis, resembling very much the sores of the small-pox, coming like Gonorrhea, a few days after having had connection with a person having the disease.

When the sores first appear on the Penis, generally on the head of the Penis, they should be cauterized with a stick of Lunar Caustic, washing the pits thoroughly with Warm water; then take a little Lint dipped in Wine, and put on the head of the Penis; draw the foreskin over it; change the Lint and wash the part four or five times a-day. This Treatment, if taken in time, will almost invariably cure the disease at once, as I have seen tested in a number of instances.

When hard lumps, called Buboës, occur in the groins, cold applications and compression by bandages



passed around the body with a hard cushion over the swelling, should be used, together with repeated inunction with Mercurial ointment. If it is not benefited by this, Blisters should be used over the swellings. These swellings in the groins, indicate that the venereal poison has been absorbed, and taken to the glands situated in the groins. But when the disease gets into the general system, which is indicated by little swellings in the back of the neck, soreness of the throat, or an eruption of the skin, Mercury should be used immediately; give one grain of the Protochloride of Mercury three times a-day, until the gums become a little sore; use Sarsaparilla freely, at the same time; anoint the swollen parts with blue Mercurial ointment; if hard lumps come on the bones, the shin bones for instance, use Mercurial ointment, and bandage the leg from the toe upward. When the disease has been in the system for a long time, and ugly sores appear in various parts of the body, let the diet be light; dress the sores with blue Mercurial ointment, and take twice daily three tablespoonfuls of the following Syrup: Make a strong tea of Sarsaparilla, mix it with molasses, to make it palatable, put in a pint of this, a drachm of the Hydriodate of Potassa, or two grains of Corrosive Sublimate; use the Sulphur-bath, and afterward, the Salt-bath once a-week.

#### IMPOTENCE OR WEAKNESS OF THE ORGANS OF GENERATION.

Get the general system into as healthy and rugged a condition as possible, by simple diet, exercise in the open air, and a proper régime in every respect. Then use stimulating frictions about the lower part of the abdomen frequently; perhaps small blisters of Flies;

take from ten to twenty drops of the Tincture of Spanish Flies internally, three times a-day. Relax from the sterner studies and duties of life, and attend more to the softer ones. The propriety of reading loose novels, attending balls and theatres for this weakness, is very questionable. A man is seldom afflicted with impotence, if he lives temperately in all things, from his youth upward. Too great excess in Venery, and particularly that bad habit of self-pollution, called Onanism or Masturbation, brings on impotence of the generative and mental powers oftener than any other cause.

Hydrocele is a collection of water in the testicle; if it cannot be removed by compressing the testicle, by drawing strips of adhesive plaster tightly around it; it should be punctured with an instrument called a Trochar, and some stimulating substance injected with a Syringe, as diluted wine; in children, simply pressing up the fluid into the abdomen, and using a compress, or, at most, letting the fluid out, will cure it. The testicle is sometimes the seat of cancer, in which case, extirpation is necessary.

#### FEMALE ORGANS OF GENERATION.

The Female Organs of Generation are divided into the external and internal organs. The external are found in and around the external opening, called the Vulva. They are the Mons Veneris, the greater and lesser lips of the Vulva, the Clitoris, and the Hymen. The Mons Veneris is a cushion-like protuberance at the upper part, covering the Os Pubis. The greater lips form the outer sides of the Vulva. The Mons Veneris and greater lips are covered with hair after puberty, to prevent chafing of the parts. The lesser

or inner lips are concealed by the outer lips in the Virgin. The Clitoris is a small teat suspended from the upper part of the Vulva, less than an inch in length. The Hymen exists sometimes in the Virgin, but not always; its absence is not positive evidence of a loss of virginity. It consists of a delicate membrane drawn across the lower part of the external opening of the Vagina.

The internal Organs of Generation in the female, consist of the Vagina, Uterus, Fallopian tubes, and the Ovaria. The Vagina is the passage from the Vulva to the Uterus; it is about an inch in diameter, and from three to five inches in length in the virgin.

The Uterus or womb is a muscular pouch in the shape of a flattened pear, the small end opening downward into the Vagina, and its large end suspended in the cavity of the pelvis, by two ligaments on each side. From the inner and upper part of the Uterus go two little tubes, one from each side, the Fallopian tubes; they are from four to five inches in length, and about the size of a goose-quill; they are open and fringe-like at the outer extremity. One of these fringes is fastened to an oval-shaped body, about the size and shape of an almond, called the Ovarium; and the two, one on each side of the Uterus, are called the Ovaria or receptacles of eggs. Each Ovarium contains from fifteen to twenty minute vesicles, the germs of future human beings. When impregnation takes place, the Semen goes up the Uterus, up the Fallopian tube, and excites one of these little vesicles to germinate or to commence being developed into a human being. When a vesicle is excited in this way, it enlarges, and leaves the Ovarium or body to which it is attached, and goes down the little tube, called the

Fallopian tube, into the womb, becoming enveloped as it goes down, with membranes which become attached to the inside of the womb, forming the connection between the mother and child.

The child increases in size, also the womb and the membranes that connect the child with the womb. The Menses or monthly discharges from the womb resembling blood, cease. When the woman is pregnant she has many curious symptoms, such as Morning Sickness, Toothache, singular tastes and diseases.

The child continues in the sack of the membrane, surrounded with water, and connected with the thicker parts of the membrane (which is glued fast as it were to the inside of the womb,) by the umbilical or Navel Cord. The membranes on the inside of the womb become changed into a thick, spongy matter, called the Placenta or Afterbirth. This is full of blood which comes from the mother, and which goes through a vessel in the navel cord to nourish the child.

Recollect, that the blood goes from this Placenta or afterbirth, fastened to the inside of the womb to the child, through a vessel in the umbilical or navel cord. The blood goes through to the heart of the child, which contracts and sends it through the whole body to nourish it, and then it is returned again to the Placenta by two vessels, also in the umbilical cord, to be purified. For you must know that the blood of the child cannot be purified in its lungs, as after birth, because it does not breathe in the womb. At the end of nine months the bag of waters is broken, and the child is expelled, when it breathes for the first time, and the circulation of blood between the child and the placenta, and through this to the mother, ceases. A

few minutes after the child is expelled, this spongy substance, the Placenta, is expelled also; the child and the placenta are expelled by the contractions of the womb itself, which continues contracting until it becomes a small, round ball, felt by pressing on the abdomen.

When the Womb does not properly contract after delivery, there is danger of fatal bleeding; in which case the woman may die in a few hours. Under such circumstances cold applications should be placed on the abdomen and injected up the vagina, to produce a proper contraction of the womb. In a majority of cases, if a woman is left entirely to nature, she will get through as well as with the assistance of a midwife or physician. I believe that more harm is done by the officiousness of physicians, and particularly by inexperienced midwives, than good.

It is well for the physician to see that the bowels and bladder are emptied at the commencement of labor; and when the Cutting-pains, as they are called, come on, it is well for him, by passing his finger gently up the vagina, to see that the right part of the child is coming down first—that is, the head—and in the right position, and that the parts of the mother are of the proper size, and the soft parts sufficiently dilated. In most cases nothing else is necessary to be done but to support the parts just behind the external opening of the vagina with a towel, when the head of the child comes into the world, to prevent them from being torn. By all means do not hurry the matter; let nature take its course.

If by stimulants and the unnecessary exertions of the mother the child is hurried into the world, and



the Afterbirth is forcibly taken away, the parts, not having had time to dilate, will be much more likely to be bruised and torn.

After delivery, if the Uterus does not contract so as to feel like a hard ball under the hand, violent hemorrhage or flooding is apt to ensue. An effort must be made to stimulate it to contract by grasping it with the hand over the lower part of the abdomen, and by putting cold cloths suddenly over the region of the uterus; if this fail, and the bleeding continue, the vagina must be plugged with soft cotton rags.

Childbed Fever is to be dreaded after delivery; treat it as an Inflammatory fever; keep flannels wrung out of hot water over the bowels. If the woman be plethoric, frequent Cupping over the lower part of the abdomen and small of the back may be necessary.

After birth, when you can feel the pulsations of the Cord no longer, tie it in two places, about three inches from the child, and cut the cord off between the knots; dress the child without much washing, and put it to the breast within five hours. The woman seldom requires stimulating drinks, unless she is very weakly and has been in labor more than eighteen or twenty hours. Women are subject to more diseases pertaining to the organs of generation, than men. They are subject to the venereal diseases, Syphilis, and Gonorrhea, and diseases of the Urinary organs, the Bladder and Kidneys, all of which are to receive the same general treatment as in men.

#### DERANGEMENTS OF THE UTERINE SYSTEM OR OF THE FUNCTIONS OF THE WOMB.

At the age of from fourteen to eighteen the Monthly discharges from the Womb generally commence in this

country. The age at which these Monthly flows commence, differs in different climates. In cold climates it does not commence till near the twentieth year; in warm climates it not unfrequently commences at twelve and thirteen. If these Monthly discharges do not commence at the ordinary period of life, the mother is apt to be alarmed for the welfare of her daughter, and resorts to stimulating medicines to force on the flow: this is wrong. If the girl is otherwise healthy, let her alone; nature will attend to it in due time. If, however, the girl is sickly, and her sickness is probably produced by the non-appearance of the Menses, she should change her manner of living: for this state is most always produced by improprieties in living, too stimulating food, and too little exercise.

The girl should live in the country; exercise a great deal in the open air, especially on horseback; live temperately; if her bowels are deranged, she might take three or four pills a day of Aloes, Slackened Copperas, and Gum Myrrh. Where the girl has had her Monthly flows, and they stop suddenly—for instance, from exposing herself to wet and cold at the monthly period—she should, in the morning, take an active purge of Aloes, and Compound Extract of Colocynth, living very light through the day; at night she should steam the lower part of her body and hips over a pan of hot water, in which might be put some stimulating herbs, as Mustard, Snake-root, or Smartweed; at the same time, drinking a tea of Senega Snake-root, then go to bed, and it will probably have the desired effect.

If her Menses have been stopped for a long time, and she has become much weakened; in short, if she

has what is called Green sickness (too great confinement in warm rooms is most frequently the cause), the best remedies are a mild but nutritious diet, exercise on horseback, and Pills composed of equal parts of Aloes, Slacked Copperas (or Sulphate of Iron, as physicians call it), and Gum Myrrh; take from two to four pills of these three times a day. The Salt-bath should be used once a week, and frictions with coarse flannels, every morning, about the region of the womb.

Instead of a stoppage of the monthly flow, there is sometimes too great a flow. At the first stage of the flow, as it is generally owing to too great an excitement of the system, Cup freely over the abdomen and give Salts; then apply cold applications, cloths dipped in cold water over the womb. If the flow still continues to be much more than natural, inject a weak cold solution of Sugar of Lead—a teaspoonful of Lead to a pint of Rain water—or a weak solution of Alum; give two or three grains of Sugar of Lead, with one-fourth of a grain of Opium, every two hours, till the discharge is lessened.

#### LEUCORRHEA.

Leucorrhœa, vulgarly called Whites, is a discharge of thin mucous matter from the vagina. If the patient be robust and healthy it will be necessary to reduce her system; but if she be debilitated, give her tonics of Iron; from ten to fifteen grains of the Carbonate of Iron, three times a day, or from twenty to thirty drops of the Muriated Tincture of Iron, using at the same time Injections of Cold Water or Sugar of Lead water, and perhaps a small Blister over the lower part of the abdomen.

Some women have much pain at the time of their

monthly flow; the best preventative of this is, in the intervals of the periods, to take mild purges and plenty of exercise in the open air. Guaiacum, Dover Powder, and the Hip-bath will allay the pain at the time.

Sometimes the womb falls down into the vagina, and even passes out of it between the thighs; this is often produced by the cruel officiousness of the ignorant midwife or physician, who draws away the after-birth too forcibly and with it the womb. When it falls down in this manner, it must be carefully returned; the woman must lie still on her back for several days, and live very light. When a woman has been subject to it for sometime, she must live light, be careful to keep her bowels regularly open, and perhaps it will be necessary to pass up a piece of sponge and let it remain in the womb at its mouth; inject, once a day, into the womb, at the same time, a cold, weak solution of Sugar of Lead, Alum, or ooze of Oak-bark.

Morbid growths, such as Tumors or Polypi, are not unfrequently found in the Uterus. If cold astringent Injections will not remove them, an operation may be necessary.

The Uterus may be the seat of cancer; it has been extirpated successfully for this disease.

# MATERIA MEDICA.

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## LECTURE IX.

I SHALL include under this head all that pertains to eating, drinking, clothing, exercise, cleanliness, and other minutiae for preserving the body in a healthy condition.

The food, in a healthy condition of the body, should be of a simple, nutritive character; varying, as to quantity, in proportion to the size and exertion of the individual. But one kind of meat, one kind of bread, and one kind of the common vegetables of the table should be used at a meal. Preserves, stimulating condiments, pickles, and desserts are not only useless, but highly injurious to the stomach of a healthy person; and they cannot be indulged in long without serious injury to the system.

The food should not be eaten hot. It should be well chewed and moistened with the saliva or juice of the mouth, and not washed down with copious draughts of hot tea and coffee, as it generally is. The best drink, the only drink that man should use, is cool water or milk. A marked freshness and healthfulness shows itself in the countenances of those using no other beverage.



Hot stimulating food, as hot stimulating drinks, only borrow strength from the latent resources of the body to be repaid with interest, five or six hours after date ; leaving the body finally weaker than if unstimulating food had been used. The natural appetite is destroyed by substituting these stimulants for it, and disease is more likely to be generated. I have not room to dwell on these points, so essential to good health, I have only to say, try the simple course of diet here recommended, for a term of three or four weeks, and you will become convinced of its utility.

A natural and pleasant degree of warmth should be maintained by sufficient clothing, and more particularly by active exercise, which is a better generator of warmth than too much clothing or fire. Nothing is more fruitful of rheumatic diseases than standing round idly on a cold, damp day ; it is much better to stir about and keep the system in a glow. Sudden changes from a cold to a hot temperature, or from a hot to a cold one should be avoided. A free circulation of fresh air is also absolutely necessary to our physical and mental well-being. Exercise of the body and mind should be temperate and regular, alternated with a due proportion of rest and sleep.

Cleanliness of the surface of the body, as well as of the clothing, is not only necessary for good looks and comfort, but also for good health. The entire surface of the body should be washed regularly once a week, at least.

The bowels should be regularly evacuated. Times for their evacuation should be attended to as regularly as meal-times. Equanimity or evenness of the mind has a great power in producing a corresponding regularity in the body. All the bad and unnatural habits

of the day should be carefully avoided, such as the use of ardent spirits, gambling, smoking, chewing, snuffing, masturbation, adultery, the use of tea and coffee, tight clothing and the thousand other follies of modern times, that interfere in various ways with the natural and healthy action of the body.

When a person is sick, a proper diet and regimen are the most potent means for bringing about a recovery. In fact, I believe that these alone, if used in time, would prevent and cure one-half of our ailments. When you have a fever use no food or that of the most simple kind, such as toast-water, rice-water, or thin gruel made of Indian meal and water, until the fever subsides. In fever, where there is irritation or inflammation of the stomach, your accustomed food would prove a great source of harm. In inflammatory affections of the bowels, lungs, or urinary organs, mucilaginous drinks alone should be taken at first, such as Slippery-elm water or Flax-seed water. In violent inflammation of any part, a light diet should be used. Cool drinks may be given in every case where there is a fever, with the tepid bath. When a person is recovering from sickness, broths made of chicken or beef, with light bread, may be used.

Persons afflicted with a chronic or long standing disease, must live as light as their strength will allow. Dyspeptics, in particular, should use simple and coarse food, plenty of exercise in the open air and frictions of the skin either with the salt-bath, flesh-brush, or coarse towel. Consumptive patients should use a more nutritious diet. They should clothe themselves with flannel next the skin, and ride much on horse-back when the disease is in its first stage. Removal to a warm climate, when the symptoms of consumption

first appear, will frequently ward off this dread disease.

#### MEANS FOR QUICKLY REDUCING THE SYSTEM.

##### BLOOD-LETTING.

Where there is a violent fever in a strong, robust person, or where congestion of blood in some internal organ, as the brain, lungs, or bowels, is likely to take place, Blood-letting is necessary, and more particularly if the locality in which the person lives, is a healthy one; such locality always indicating the abstraction of blood more than a locality where fever and ague and bilious fevers prevail. Blood-letting, under such circumstances, shortens fever, terminates inflammation most favorably, and prevents congestion.

When the disease first sets in, bleeding should be performed from a vein at the bend of the elbow; the vein being rendered full and turgid by a narrow bandage being drawn tightly around the arm above the elbow. A common thumb-lancet is the best instrument for this purpose. The person being bled should be in a sitting or standing posture, and should be bled until a faintness is produced; then untie the bandage quickly, bind a compress over the orifice, and let the person lie down with the head full as low as the body. The compress is made by folding a piece of muslin six or eight double. From half a pint to a quart is generally sufficient to be taken from a grown person. If the person should faint after being laid down, sprinkle cold water in his face and apply Camphor or Hartshorn to the nose. It is frequently necessary, where one bleeding does not subdue the fever or inflammation, to repeat it in the course of twenty-four or forty-eight hours.

Where the symptoms of the patient are not so violent, where the patient is weakly, where the disease has existed for some time, or where the system has been reduced by a previous bleeding, and more particularly where there is pain or oppression in some internal organ, Cups or Leeches are the better means of abstracting blood. You can cup very well with common tumblers and a sharp razor. Hold the tumbler in your left hand, set fire to a piece of newspaper with your right; when the newspaper is in a blaze, throw it in the tumbler and immediately clap the tumbler on the part to be cupped, so that no air will get under the edge of the tumbler. When the tumbler has drawn ten or fifteen minutes, take it off, cut three or four gashes with the razor, and put the cup on again until it has drawn all it will. An instrument, called the Scarificator, is better for making the gashes with than the razor. Leeches are the best means for drawing blood from young children.

The following diseases generally require large abstractions of blood from the arm: Apoplexy, Violent fever, Child-bed fever, Inflammation of the brain, Pleurisy, Inflammation of the Peritoneum or membrane covering the bowels, Active Inflammation of the lungs, liver, and kidneys. The following diseases require a less abstraction of blood, and in most cases can be cured without any bleeding at all. The commencement of mild Intermittent and Remittent fevers, or fevers attended with an eruption, as Measles, Scarlet fever, Small-pox, and Chicken-pox.

It is sometimes necessary to bleed in Rheumatism, Bronchitis, Inflammation of the stomach and bowels. In many of these affections, especially if some internal organ is affected, cupping will answer the purpose

best. Cupping on the nape of the neck, and between the shoulders will frequently relieve disorders of the head and breast, when other means fail.

When a large limb, as the arm or leg, has been out of joint for some time, and the muscles have become contracted so as to render it difficult to set the limb, by bleeding the person, while sitting in a Warm-bath, till he faints, the muscles will become so relaxed as to admit of the limb being reduced.

In Spasmodic colic, where the muscles of the bowels are so contracted as to prevent an evacuation, bleeding will sometimes open the bowels after the most drastic purgatives have been used to no purpose.

I well recollect the case of Mr. B., of Cincinnati, who was attacked most violently with this species of colic; the most powerful physic had no effect; mortification threatened. No sooner was he bled to fainting, than he had a passage from the bowels, and was immediately relieved.

When the Febrile or inflammatory symptoms are not very violent, Blood-letting should give way to other reducing remedies, such as Emetics, Cathartics, the Warm-bath, and in some instances, where there is a good deal of nervous irritability, Opium. During a practice of eight years in a bilious district, where the system becomes debilitated by the poisonous miasms, I have seldom found it necessary to use the Lancet. But I have used Cups more frequently.

#### EMETICS.

Emetics are those medicines that excite vomiting. They are useful, where there is some indigestible substance lying in the stomach, producing an uneasy sensation there, or sick headache, or other unpleasant



feelings in the general system. Emetics would do good in the beginning of most febrile diseases.

The best emetic in this case, is two grains of Tartar-emetic, mixed with twenty grains of Ipecac. Put this powder in six tablespoonfuls of Warm water, and give one tablespoonful every five or ten minutes, until vomiting is produced; then give copious draughts of Warm water, so as to thoroughly cleanse out the stomach. Emetics are useful where poisons have been taken into the stomach. Here, you want a speedy emetic, and none answers the purpose better than the Sulphate of Zinc, commonly called White Vitriol; a dose, is twenty grains, dissolved in a teacupful of Warm water. In affections of the chest, particularly in Asthma, an emetic of Lobelia or Squills is best. A dose of powdered Lobelia, is fifteen grains, of the Tincture, one teaspoonful. The dose for Squills, is about the same.

The best emetic for children, is Ipecac., given in doses of from two to ten grains. In Croup, emetics are the sheet anchor of hope; keep the child nauseated constantly until the croup goes away. A plaster of snuff kept around the neck, will assist the nauseants in this disease.

In consumption, where there is a difficulty in throwing up the matter, an emetic of three grains of the Sulphate of Copper or Blue Stone, dissolved in a teacupful of water, is highly recommended.

In the beginning of fever, particularly where the liver is inactive, which is known by a yellowness of the skin and tongue, with a bitter taste in the mouth, and a high-colored urine, an emetic of six grains of Tartar-emetic dissolved in six tablespoonfuls of Warm water should be given, using a tablespoonful every ten

minutes till it operates. Tobacco, Mustard, Blood-root, and common Salt are sometimes used as emetics. Mustard in the dose of a tablespoonful, ground, in a cup of Warm water, is very good, just before a chill of the fever and ague is expected. A drachm of Tobacco, dissolved in a pint of water, may be injected into the bowels, where great prostration is required, as in obstinate colic, and in the reduction of limbs long out of joint. A plaster of Tobacco laid over the stomach will assist the operation of an emetic very much.

The doses of medicines here given, are intended for grown persons, unless children are specified. Children about ten years old, should have half the dose of a grown person. Children five years old, a quarter. Children two years old and under, an eighth of a dose for an adult. Some strong, robust persons may require more than the quantities here mentioned; and some older persons of weak constitution may require less. This general rule should be borne in mind, in the administration of all other medicines, as well as emetics.

Emetics are very potent remedies, used in doses not large enough to vomit, but just large enough to keep the patient sick at the stomach; most every case of mild fever can be subdued by this course alone. For this purpose, dissolve six grains of Tartar-emetic in half a pint of Warm water; give a tablespoonful, or more, or less, as the case may require, every hour, so as to keep the patient slightly sick at the stomach, until there is a moisture on the skin, and the fever is broke. Nauseants supersede the necessity of blood-letting in nearly all mild cases of fever. What are called Nitrous Powders, are almost a certain cure for the mild bilious fever; they are composed of ten grains of

Nitre (Saltpetre), two grains of Calomel and an eighth of a grain of Tartar-emetic; one to be given in a little honey or thick cream every two hours, till the fever goes off. For nauseating children, Ipecac. is the best; it is very useful in whooping-cough, croup, bad colds, and where there is fever from almost any cause.

## CATHARTICS.

Cathartics are those medicines that produce increased discharges from the bowels. The action of the different medicines used as cathartics, is very different, both as to the severity of their action, and as to the nature of the discharges they produce.

Cathartics are indicated where there is a costive state of the bowels, where the discharges are unhealthy, where we want to reduce the system, and where there is an inflammation in some other part, and we want to draw the irritation from the inflamed part to the bowels.

Cathartics are indicated in a greater number of diseases than any other class of medicines. A too long use of them, however, will do injury, producing inflammation and ulceration of the bowels. Cathartics should be used with the greatest caution, where there is inflammation of the stomach or bowels; which can be detected by a burning pain in the belly, increased by pressing on it with the hand. Injections are the best means for opening the bowels, where there is inflammation of the stomach or upper bowels. If there is inflammation of the lower bowel, producing the disease called Dysentery, the bowels should be once thoroughly opened by some mild cathartic, and then no other purge should be given for some time, but rather inject, in small quantities, some soothing

substance up the anus, half a teacupful of Starch water, mixed with forty drops of Laudanum.

#### MILD CATHARTICS.

Where a simple operation of the bowels is required, give two tablespoonsful of Castor oil with a teaspoonful of Turpentine; or two tablespoonsful of Epsom Salts with about the same quantity of Senna leaves, steeped in half a pint of boiling water. Pills made of equal parts of Aloes, Rhubarb, and Castile Soap, mixed up with an extract made by boiling the inner bark of White Walnut (Butternut) down to a jelly, make a good cathartic. Mayapple-root, Sulphur and Sugar-house Molasses and Mustard, are mild laxatives. Rhubarb root, chewed constantly, is good to counteract habitual costiveness.

#### MORE ACTIVE CATHARTICS.

Aloes, Colocynth, and Gamboge, of each, three parts, Cayenne pepper one part, make it into pills with Molasses, first having pulverized and mixed them thoroughly. Take of these four every four hours until they operate. The following is used as a common cathartic pill at the Commercial Hospital, Cincinnati: Aloes, Colocynth, and Scammony, of each, three parts, Red pepper one part, made into pills and taken as the above.

In Dropsy, where a watery discharge is required, Cream of Tartar one hundred grains, with Jalap twenty grains, given two or three times a day. The following is the composition of "Brandreth's Pills:" Colocynth four ounces, Aloes two pounds, Castile Soap half a pound, Oil of Peppermint two drachms,

Oil of Anise one drachm, the whole to be ground up very fine and made into pills with syrup or paste.

The following is the composition of "Morrison's Pills," No. 2: Aloes three parts, Colocynth one part, Gamboge one and a half parts, Cream of Tartar half a part, Ginger half a part, made into pills.

Morrison's No. 1 Pills: Gamboge half a part, Aloes three quarters of a part, Cream of Tartar three quarters of a part, made up as the above.

Where the Liver is inactive, cathartics with some preparation of mercury are best, to excite again the secretion of Bile, which is the natural purgative of the system. A mild purgative of this kind is composed of equal parts of Aloes, Rhubarb, and Blue Mass, made into pills; five or six of which may be taken every four hours until they operate. If the patient is hard to be operated on, substitute Calomel for the Blue Mass. In Colic, the Oil of Peppermint, or Cinnamon, or Turpentine, should be combined with the cathartic. Where there are Spasms or violent Gripping, combined with Assafœtida, Soap, Extract of Hyoscyamus or a few drops of Laudanum. Where there is acidity of the stomach, with Carbonate of Soda.

The following is a tonic or strengthening cathartic, good for costive persons, who are weakly: Aloes two drachms, Gum Myrrh one drachm, Cayenne Pepper one scruple, Quinine one scruple, made into pills and taken two or three times a day so as to keep the bowels regular.

The following pills are very useful to girls and women who are weakly and irregular in their monthly courses: Aloes and Myrrh two parts of each, one part



of the Sulphate of Iron (copperas) made into pills: take five or six a day.

#### DRASTIC OR POWERFUL CATHARTICS.

Croton oil, given in obstinate costiveness, on sugar. In Apoplexy, by dropping on the tongue. Dose from two to eight drops. Eleterium or wild Cucumber, given in Dropsy. Dose from half a grain to two grains of the powder. Scammony, Colocynth, and Gamboge are Drastic purgatives. This class of cathartics are useful in the obstinate costiveness that sometime occurs in Delirium Tremens, Insanity, and Obstinate Torpor of the Bowels.

#### CATHARTIC INJECTIONS.

In order to assist the operation of cathartics given by the mouth, or where it is inadvisable to give them by the mouth on account of there being irritation or inflammation of the stomach or upper bowels, or where it is impossible to get the medicines down the throat from spasm or swelling of the parts, Injections are invaluable remedies. The injection of a pint or more of warm water, mixed with a little common salt, will generally be sufficient, or it may be mixed with some Soft soap. A Stimulating injection can be made by beating up a tablespoonful of Turpentine with the yelk of an egg, and then mixing this with a pint of warm water. Simply putting a piece of hard soap up the anus will produce an operation.

#### CATHARTICS FOR INFANTS.

Molasses or Brown sugar, Rhubarb and Magnesia, from two to five grains of each mixed together and

given in a tablespoonful of molasses. Castor oil a teaspoonful, Sweet oil two teaspoonsful. If there is Wind collected in the Bowels, a little Peppermint Essence should be added. Injections can be given also with care. Where a syringe is not at hand, an injection can be given with a bladder, to the mouth of which is fastened a small tube or goose quill.

#### DIAPHORETICS.

Diaphoretics are such means as produce an increased action of the Skin, in other words, sweating. Now the pores of the skin can be closed up by filth, fever, cold, and a congestion of blood within.

The system must be got into a certain healthy condition before the secretions of the Skin (the sweat) or of the glands of the body, will be properly poured forth. Hence the best diaphoretic, when there is fever and a dryness of the skin, is something to reduce the excessive action of the heart, when the sweat will break out of itself. Blood-letting can be used to accomplish this, if the case be urgent; nauseants of Tartar-emetic and Ipecac. dissolved in water, and given in sufficient quantity to keep the patient sick at the stomach. Putting the patient in a Warm-bath or Steaming him, or wrapping him up in a wet Sheet, will greatly assist the other means for starting the perspiration. Where all these means have been used without effect, and the patient is restless, nervous, and sleepless, a large dose of Opium will frequently have the most desirable effect. The best form of giving it in this case is to give it in the form of Dover's Powders, from ten to twenty grains.

## DOVER'S POWDERS

Are composed of Opium one part, Ipecac. one part, Sulphate of Potassa eight parts, ground finely together. The Sassafras root, used as a tea, makes a good diaphoretic ; also, the sweet Spirits of Nitre, in doses of from twenty to thirty drops, repeated every two hours.

Where the perspiration is suppressed by a sudden cold, producing an oppression of the lungs, a Steam-bath is indicated. You can give a person a steaming, by simply setting him on a chair, and wrapping a blanket around him, and then put a dish of hot water under the chair, and raise a steam by putting hot irons or bricks in the water. When the febrile symptoms have subsided, and a gentle moisture is desired to be kept up on the skin, give a teaspoonful of the Spirits of Mendereri every hour.

The Spirits of Mendereri is made by putting the Carbonate of Ammonia in Vinegar, and letting it dissolve, until foaming has ceased. When a person is in a high fever, Cold, Acidulated water as a drink, with cold sponging of the face, neck, hands, and arms are not only very agreeable, but useful. One thickness of thin muslin can be kept wet constantly on the forehead. The old rule of abstaining from the use of cold water while taking Calomel, is perfectly absurd. The hot teas usually given to produce sweating, are of doubtful utility, frequently increasing, rather than decreasing the fever ; the Warm-bath and the free use of Cold water is much better.

## EXPECTORANTS.

Expectorants increase, and aid in discharging the secretions of the lungs. In diseases of the lungs, where

there is fever or inflammation, the same reducing remedies should be used, spoken of under the head of Diaphoretics, such as Blood-letting, Tartar-emetic, Ipecac., and the Warm-bath. The local application of wet cloths over the breast is a very valuable means. In more chronic or long standing cases, where there is a tough mucus secreted, and thrown up with difficulty, the Honey of Squills with Vinegar is very beneficial; likewise, the Balsam of Tolu, Fir, and Copaiva, Bloodroot, and Licorice-root. Warren's Cough Mixture, containing Lobelia, Bloodroot, and Morphia, is a good preparation; also, the following: Gum Arabic one ounce, Licorice half an ounce, Saltpetre one drachm, Tartar-emetic two grains, Water one pint, of which use a tablespoonful every two hours. Inhaling the vapor of Warm water, is good to loosen the mucus in the air tubes; by mixing tar or other indicated medicines with the water, it is said to have a still better effect.

Where a person has the consumption, with a great difficulty of throwing up the matter, an occasional vomit will assist the expectoration much. Many medicines may be applied directly to the lungs, by boiling them, and inhaling the steam, such as Vinegar, Gum Ammoniac, Chlorine, Iodine, Comfrey, Elecampane, Stramonium (Jamestown Weed), Tar, Tobacco, Senega Snake-root, etc.

The following, are good preparations for coughs in children: tincture of Opium and Camphor one ounce; Wine of Antimony, half an ounce; Extract of Licorice, three drachms; Gum Arabic, two drachms; Boiling water, six ounces; give of this, a teaspoonful every two or three hours, until the child gets better.

The following, is a good preparation in Whooping-

cough: Ipecac., three grains; Pulverized Gum Arabic, half a drachm; Carbonate of Magnesia, half a drachm; White Sugar, one drachm. Make it into twelve powders, and give one every two hours.

The following, is the composition of Coxe's Hive Syrup: Senega Snake-root, one ounce; Squills, one ounce; Tartar-emetic, twelve grains; Water, one quart; boil down to a pint; strain, and add half a pint of Honey; dose, from twenty drops to a teaspoonful.

#### DIURETICS.

Diuretics increase the flow of Urine. They are indicated, where there is a suppression of this flow, and in nearly all diseases of the bladder and kidneys. The following, are the principal diuretics: Juniper-berries, dose from a drachm to two drachms; Buchu-leaves, dose, from half a drachm to a drachm, made into a tea; Digitalis, dose, from ten to twenty drops of the Tincture; Meadow Saffron or Colchicum, dose, from two to ten grains, or from twenty to thirty drops of the Vinous Tincture; Oil of Turpentine, dose, from five to thirty drops; Cream Tartar, give an ounce in twenty-four hours; Squill, dose, from one to four grains.

The following, is an active preparation for Dropsy: the Deuto-chloride of Mercury (or Corrosive Sublimate), one grain; Sweet Spirits of Nitre, two ounces; Tinct. Camphor, half an ounce; Syrup of Squills, one ounce; Tinct. Digitalis, one drachm; dose, a teaspoonful every three hours.



## LECTURE X.

### EMMENAGOGUES.

EMMENAGOGUES assist the womb to secrete the Monthly courses, and are useful where the monthly courses are irregular. Depletive remedies and the Warm-bath are indicated where the patient is strong and robust, and where there are febrile symptoms. Pennyroyal is a mild emmenagogue. Black Hellebore, dose, from ten to twenty grains; Oil of Rosemary, dose, from three to six drops; Maddar, dose from twenty to thirty grains; Savine, dose, from fifteen to twenty grains; Spurred Rye, dose from ten to twenty grains; Senega Snake-root, dose from ten to thirty grains; Tansy, dose, from thirty grains to a drachm.

### ANTHELMINTICS.

Anthelmintics are those medicines used to remove worms from the intestinal canal. Turpentine, from half a teaspoonful to two teaspoonfuls; Wormseed oil, from four to eight drops; Cowhage, from one to two teaspoonfuls; Dipple's Animal oil, from five to twenty drops; Common Salt, from half an ounce to an ounce; Pinkroot and Senna, twenty grains of each, given two or three times a-day, is a very good combination.

## TONICS.

Tonics are strengthening medicines. They are indicated where a patient is recovering from an attack of sickness. Where an exhausting disease exists, as where there is a running abscess, or where the system has become debilitated from any cause whatever; good, plain, substantial food, gentle exercise in the open air, with cleanliness and friction over the surface, are simple but powerful tonics.

The preparations of Iron stand first among tonic medicines; they are oftener indicated than any other class of tonic medicines because, in debilitated cases, the blood is oftener deficient in iron than in any other constituent. The coloring-matter of the blood is iron, and every one has noticed the light color of the blood, and consequently, of the complexion of debilitated persons. By giving some preparation of iron, it gives the blood a richer color, and the complexion a ruddier hue. The Precipitated Carbonate of Iron, given in doses of from ten to twelve grains three times a day, is as good a preparation of iron as is used. If the bowels are irregular, combine each dose of iron with four or five grains of Rhubarb.

The Sulphate of Iron (Copperas) four grains, mixed with Myrrh four grains, and Aloes two grains, given three times a day, is good in debilitated females; also the Muriated Tincture of Iron is good in the same cases. A home-made preparation of iron can be made by putting a quantity of rusty nails in some sour cider, and letting it stand for a few days.

The Bitter tonics stand next in importance. They are invaluable in the cure and prevention of intermittent fevers. Under this head come Columbo-root, Gentian, Quassia, Peruvian-bark, Wild Cherry-tree

bark, Dogwood bark, Wa-a-hoo, Poplar bark. The dose of these is from ten to thirty grains, three times a day. Quinine is the most powerful bitter tonic we have, given in doses of from one to four grains, three times a day. The following is an excellent combination in Dyspepsia, where there is a want of action in the stomach: Infusion of Quassia a wineglassful, Tincture of Columbo one fluidrachm, Tincture of the Muriate of Iron ten drops; to be taken one hour before a meal.

The Acids are also tonics. Nitric, particularly in diseases of the liver. Mix one ounce of Nitric acid with nine ounces of Distilled water: Give of this from ten to twenty drops at a dose, three times a day. Bathing the body with water acidulated with equal parts of Nitric and Muriatic acids is used for liver complaints. The best method of using Sulphuric acid (Oil of Vitriol) is, in the form of Elixir of Vitriol; dose, from ten to twenty drops. Common Vinegar is sometimes useful as a tonic, used both internally and externally. Pure Wines are indicated sometimes where they do not produce too much excitement; what is still better is good Ale. The Cold-bath, taken every morning, followed by a thorough rubbing with a coarse towel, is a means that every invalid, unless he be too weak, should attend to regularly.

#### TONICS FOR DEBILITATED INFANTS.

The Tartrate of Iron; dose, from five to ten grains. Where medicines will not be retained in the stomach and it is necessary to give a tonic, use half an ounce of Peruvian-bark, mixed in half a pint of water, in the form of an injection. The following is a good tonic preparation for children, and especially for those

that are subject to the fever and ague. Quinine two grains, Elixir Vitriol sixteen drops, Syrup of Cloves half an ounce, Water an ounce and a half. Give a teaspoonful three times a day. Where a slight stimulus is required, put an ounce and a half of White wine with a pint and a half of boiled Milk. Bathing children regularly is another tonic means that should never be forgotten.

## ASTRINGENTS.

Astringents contract or pucker up the animal structures. They are used in long-continued Diarrheas, in Hemorrhages (bleedings), in excessive secretions of Mucus and Serum, in Sore Eyes, Piles, and long-standing Sores of most every kind. The following are the principal Astringents: Alum ten to thirty grains. Dried Alum, five to ten grains. Elixir Vitriol from ten to thirty drops. Catechu ten grains to half a drachm. Kino ten to thirty grains. Rhatany twenty to thirty grains. Sugar of Lead one grain to ten. White and Black Oak bark. Blackberry-root. Creosote. Chalk—Alum and Sulphate of Zinc (White Vitriol), each half an ounce, mixed with boiling water, a quart, makes an excellent astringent wash for sores of most any kind. A good prescription for ordinary Summer Complaint is two grains of Dover Powder, one grain of Calomel, ten grains of Prepared Chalk, given every two hours until the patient is better; using no nourishment but Slippery-elm water or Flax-seed water. If the disease continues after using several doses of this, then use some of the more powerful astringents, such as Kino, Rhatany, Tannin, or the Sugar of Lead.

I would here say that I have of late used scarcely any other astringent internally but Tannin. It is the

active principle of all vegetable astringents, and it accomplishes the object with more certainty, with less irritation, and in less quantity than any other astringent I ever used. I use it a good deal in the preparation of Ointments for sores of different kinds. The dose is from two to five grains. For a wash it should be used in the proportion of from four to eight grains to the ounce of water.

The following preparations are recommended in obstinate diarrhea: Extract of Rhatany and Sugar of Lead, each, five grains, Opium half a grain, given two or three hours until the symptoms abate. Or the following: Kino three drachms, Gum Arabic one drachm, Cinnamon Water two ounces. Take a teaspoonful every three hours.

The following is a good combination in the Diarrhea of infants: Prepared Chalk half an ounce, Almond Soap and pulverized Rhubarb, each, a drachm, Hydrargyrum cum Creta twenty grains, Oil of Fennel eight drops, White Sugar two drachms. Give from six grains to twenty, three times a day. A Syrup of Blackberry-root is valuable.

Where the child is low use the following: Blackberry syrup two quarts, Nutmeg half an ounce, Cinnamon and Allspice half an ounce of each, best Brandy one pint; sweeten with Loaf sugar, and give two teaspoonsful three or four times a day. In Dysentery (which is an inflammation of the lower gut) an injection of Starch water, about four tablespoonsful, mixed with about a teaspoonful of Laudanum and five grains of Tannin after the bowels have been once thoroughly evacuated, is the best remedy that I ever saw used for that complaint. The injection may be repeated every two or three hours until relief is obtained.



## A WASH FOR SORE MOUTH.

Fill a four ounce vial two-thirds full of Water, put in as much Alum as will dissolve, and then fill the bottle up with Laudanum ; rinse the mouth with this five or six times a day.

## A WASH FOR SORE EYES.

Put four or five grains of the Sulphate of Copper (Bluestone), or the same quantity of the Nitrate of Silver, in an ounce of Rain water, and wash the eyes with it once or twice a day. Or, put ten or fifteen grains of Sulphate of Zinc (White Vitriol) in an ounce of Rain water.

In violent bleeding from the Womb, put a small teaspoonful of the Sugar of Lead in a pint of Cold Rain water and inject into the womb, at the same time giving internally five grains of Sugar of Lead and a quarter of a grain of Opium, every two or three hours until the bleeding stops.

In bleeding from the Lungs, Stomach, or Bowels, the internal use of Sugar of Lead or Opium is indicated ; not, however, till the patient is somewhat reduced.

In all these internal affections, where astringents have been recommended, the external use of some stimulating applications, as Cloths wrung out of Hot water, Mustard plasters, Liniments, or where there is much internal inflammation, Blisters will assist their action very much.

## SEDATIVES.

Medicines producing Sleep, quieting Spasm, lowering the action of the Heart, easing Pain, and allaying general Nervous Irritability. Useful in all Nervous diseases, and often in Inflammatory and Febrile dis-

eases where the nervous system is much excited. They are useful in Spasmodic diseases, as in Colic, and where there is too great an action of the involuntary muscles, as in Diarrhea and palpitation of the Heart.

Opium and its preparations are the safest and surest of Sedatives. In small doses, say from a fourth to half a grain, it stimulates; but in larger doses, from two to five grains, it acts as a direct sedative.

Laudanum is the Tincture of Opium. The dose is from fifteen to sixty drops.

Morph'a is the active principle of Opium, and the form in which I generally prefer exhibiting opium. The dose is from an eighth to half a grain.

Paregoric is a weak Tincture of Opium; generally given to children. Dose for children, from five to twenty drops; for adults, from twenty drops to a teaspoonful.

Hyoscyamus (Henbane) is a Sedative. Dose from four to ten grains of the Extract.

Digitalis (Foxglove). Dose from one to three grains.

Conium (Hemlock). Dose from three to five grains.

Belladonna (Deadly Nightshade). Dose from one to two grains of the Extract.

Aconite (Wolf's-bane). Dose from four to eight grains.

Ether. Dose from one to two drachms.

Tobacco. This should be used in the form of an injection. Dissolve a drachm in a pint of water, half of which should be used at a time. Tobacco will produce its Sedative effect if used in the form of a plaster laid over the bowels. Tobacco is never used internally except where great relaxation of the muscular

system is required immediately, as in violent Spasmodic Colic; here it will frequently afford relief when all other means fail. When boiled with Lard it makes a good ointment for irritable ulcers.

Stramonium (Jamestown weed) is another most valuable sedative as an external application. An ointment made by boiling Stramonium leaves in Lard, is one of the best for painful sores and piles. The leaves of Stramonium smoked, afford much relief in Asthma.

Blood-letting is a powerful sedative, where the circulation of the blood is too active. The application of Cold water, especially to the head, has a very sedative influence: for this purpose a bladder of ice should be kept on the head, or a single thickness of thin muslin should be kept wet on the forehead.

Chloroform, used as an inhalation, is a quick, powerful, and certain sedative. Chloroform should be used where an insensibility to pain is desired, as in surgical operations; or, it may be used in a high nervous excitement from any cause, as in Convulsions, or in a Fever kept up by nervous irritation. It is a powerful remedy and should be used with great caution. I have used it and seen it used in many cases, always with perfect satisfaction. I would as soon be deprived of any other remedy in my practice as Chloroform. It is a boon to suffering humanity whose place cannot be supplied by any other agent. Its administration is simple. Pour about a drachm at a time on a handkerchief, held in the hand, and breathe through the handkerchief until the desired effect is produced; quietness is to be observed in the room; the Stomach should be empty, else vomiting will be excited. In

difficult parturition (child bearing) no physician should withhold this from his patient.

## SEDATIVES FOR CHILDREN.

Lemonade, one ounce; Black drop or Laudanum, two drops; shake well and the dose will be a teaspoonful for every year of its age. A child three months old may take half a drop of Laudanum; six months old, one drop; one year old, two drops.

PRESCRIPTION.—Rain water, one ounce; Mucilage of Gum Arabic, half an ounce; Simple Syrup, half an ounce; Laudanum, one drop. Dose, a teaspoonful every half hour until rest is produced. If the child be over a month old, double this quantity may be given.

## ANTISPASMODICS.

Sometimes there is an irritability of the nervous system that can be overcome without the use of the more powerful sedatives; as in Hysteria, the peculiar nervousness of persons recovering from a Fever, Delirium Tremens, Windy Colic, and the like. Here Antispasmodics are indicated. Ether, from one to two drachms; Assafoetida, five to thirty grains; Skunk-cabbage, ten to twenty grains; Valerian (Lady slipper or nervine) half a drachm to a drachm and a half.

## FOR CHILDREN IN SPASMS.

Assafoetida six grains, infusion of Chamomile one ounce, with a little Gum Arabic, to be injected. Another: warm milk, one ounce; Peppermint Essence, half an ounce; Tincture of Assafoetida, one drachm, to be injected in convulsions. Chloroform inhaled, is the most powerful of Antispasmodics.

Douches of cold water are good in Spasms.

## EXCITANTS OR STIMULANTS.

This class of medicines is used where an increased circulation of blood is required, either in a part or the whole system; as where there is great prostration of the system; or where the bowels are so torpid, as not to be acted on properly by other medicines, excitants being given here to assist the action of other medicines.

Excitants are used in every case where the spark of life has nearly expired, as in the restoration of drowned persons; those having received a violent blow or shock; those struck by lightning; those in the last stages of fever or disease of any kind. They are used locally, to drive away congestions of bloodvessels in the part, as in the first stage of inflammatory swellings. They are used in indolent sores, where there is not enough life to heal. Spirits, such as Brandy, Wine, Whisky, Rum, etc., are powerful stimulants, when taken internally, and externally, if the wet surface is kept covered to prevent its evaporating.

Carbonate of Ammonia is a very powerful stimulant; this is the Smelling Salts that ladies fill their smelling-bottles with; if taken internally, the dose is from five to ten grains; Ether, one to two drachms; Camphor, five to fifteen grains; Cayenne Pepper, five to ten grains; Cinnamon, ten to twenty grains. The essential oils, such as Cinnamon, Peppermint, Cloves, in doses of from five to fifteen drops; Nux Vomica, four to six grains; Strychnine (the active principle of Nux Vomica), from one-sixteenth to one sixth of a grain.

Heat, as hot drinks or heat applied externally. Friction is an excitant; all external applications are rendered more potent by being used with a gentle



friction. Electricity is perhaps the most powerful excitant we have; it seems to be similar to the life-exciting principle itself, and it will sometimes restore life to the paralyzed limb or system when all other means fail.

#### ALTERATIVES AND SORBEFACIENTS.

Those medicines that act imperceptibly on the whole system, producing a general change in it without any violent action. They act slowly but powerfully, eradicating diseased conditions of the body that have been of long standing; removing morbid growths, and restoring the whole system to a healthy condition.

Mercury stands at the head of this class of medicines. Blue Pill (which is a preparation of Mercury), is almost a certain cure for mild attacks of sickness depending on a want of action of the liver, as costiveness, temporary Dyspepsia, Jaundice, and the numerous catalogue of real Liver complaints.

Take about six grains for four or five nights in succession, seeing that there is an operation from the bowels every morning; then discontinue a week and repeat again in the same manner, until the difficulty is removed. If the gums look redder than natural, or become tender, discontinue for a while, or salivation will be induced. It will be necessary also, to attend strictly to diet, exercise, bathing and the like, so as to assist the medicine.

A more active form of Mercury is Calomel. This acts as an alterative most effectually, when given in small doses, from two to three grains every three hours, until yellow discharges are produced. Yellowness of the discharges from the bowels, and less yellowness in the urine and skin is an indication of

mercury taking effect, and it should not be used longer. Where the liver is inactive, and the bowels loose, as in Cholera Morbus and watery Diarrhea, the Calomel should be given combined with Opium; two grains of Calomel with a fourth of a grain of Opium, or an eighth of a grain of Morphia every two hours, until the symptoms subside.

The Proto-iodide of Mercury is a still more powerful alterative, and should be used where some dangerous disease threatens to get into the general system, and you want to get this introduced first, as in the second stage of Venereal disease (Pox), or where some ulceration is extending rapidly, as ulceration of the liver, or where false membranes are being formed, as in inflammation in the windpipe, called Croup, or in Pleurisy.

Corrosive Sublimate is another very powerful alterative and sorbefacient, stimulating to increased action every gland and absorbent vessel in the system. It is very useful for the removal of enlargements of the bones and flesh, occurring from Venereal disease. Two grains mixed with a pint of the Syrup of Sarsaparilla, is a good mode for its administration. Give of this two or three tablespoonfuls three times a-day.

I am aware that there is a popular prejudice against the use of these rank poisons, as they are called. But this very power that they possess, is what makes them useful, and there is no possible danger in using them in the manner here recommended. By mixing Corrosive Sublimate twenty grains, with Lime-water a pint, you form an excellent wash for old sores, known under the name of Yellow-wash.

Blue Mercurial Ointment (Unguentum) is an excellent ointment for sores, and especially if combined with

some astringent, as Alum, Sugar of Lead or Tannin. It is sure death to lice of all descriptions.

Hydriodate of Potassa is another medicine of this class, valuable in most all chronic diseases; mix a drachm with a pint of the Syrup of Sarsaparilla, and give two or three tablespoonfuls three times a-day. Sarsaparilla alone, is said to have an alterative effect.

#### EXTERNAL APPLICATIONS.

1st. Stimulating: to draw the irritation from some internal and vital part to the skin; the inflammation of which, is not so serious as that of the part from which you wish to draw it. Stimulating applications are used to drive away congestions of blood in a part, producing swelling which would otherwise terminate in inflammation and suppuration (formation of matter). This is commonly called "Scattering the swelling."

Stimulating applications are also used to excite action in parts too indolent or lifeless, as in Paralysis and Old sores without much feeling. Blister plaster stands first in this class of external applications. This is made by pounding up a pound of Spanish flies or of Common potato flies, and mixing them with White wax, Resin, and Olive oil, half a pound of each, melted. Mustard plasters, made of Ground Mustard, mixed up with Vinegar and Flour, having the proportion of mustard in proportion to the age of the person and to the urgency of the case; it is an excellent application in painful affections of the Stomach and Bowels, and in violent Chest complaints.

The following liniment is one that will accomplish all that the patent liniment's, such as "Opodeldoc," "Nerve and Bone Liniment," "Chinese Liniment," or all the "Pain Killers," can do. Take equal parts of

Laudanum, Sweet oil, Aqua Ammonia, and Spirits of Camphor. Shake the mixture up and rub it on the part where you wish to produce the irritation. The irritation will be much greater if the part be covered up with a flannel cloth after it is rubbed. The following is the composition of "Granville's Lotion:"

1st. The *Milder*: Liquor Ammonia one ounce, Spirit of Rosemary six drachms, Tinct. of Camphor two drachms.

2d. The *Stronger*: Liquor Ammonia ten drachms, Spirit of Rosemary half an ounce, Tincture of Camphor two drachms. By wetting the surface with the stronger lotion and covering it up, you can draw a Blister.

For indolent sores the following are good ointments: The Citrine, the Basilicon ointment (made by melting one ounce of Beeswax, one ounce of Resin, and one and a half ounces of Lard together). The Yellow-wash, made by mixing one drachm of Corrosive Sublimate with a pint of Lime-water.

#### COOLING AND SEDATIVE APPLICATIONS.

Useful where there is much heat or pain. Cold water, applied with a Sponge, or keeping a cloth constantly Wet over the part. In inflammation of the Brain a bladder of Ice should be kept alternately on different parts of the head.

For painful inflammations and swellings, Poultices of Tobacco, or Stramonium, or Poppy leaves, are admirable.

For painful sores, Ointments made from the above-named plants, boiled down to an extract and mixed with Mutton tallow.

For the Itch, Sulphur ointment is a sure cure. Ointment of Red Precipitate and Yellow Dock is also used for this purpose.

The following is an excellent ointment for the cure of Venereal and Scrofulous sores: Deuto-Iodide of Mercury four grains, Morphia four grains, Ointment (made of lard, wax, and resin) one ounce, mixed.

A good ointment for simple sores is made by mixing six ounces of Lard and one drachm of the Sugar of Lead.

Tartar-emetic ointment, is used to raise a crop of little sores on the skin, in order to relieve some internal difficulty. It is made by mixing a drachm of Tartar-emetic with six drachms of Lard.

Where there is inflammation, and matter is likely to be formed, the sooner it is brought to a head the better; for this purpose keep a Bread and Milk poultice on it constantly; if there be much pain, mix the poultice with Poppy leaves, Jamestown weed, or Tobacco.

Where there is Proud flesh in a sore, and it be very sensitive to the touch, cauterize it with Blue-stone, Lunar Caustic, Burnt Alum or Caustic potash.

Sores resembling Cancers, have been cured by ointments containing Arsenic. The following preparation is recommended in such cases: Six grains of the Chloruret of Gold, dissolved in an ounce of Nitromuriatic acid.

The following is a good preparation to kill the nerve of a tooth: Arsenic one-fourth of a grain, Morphia a fourth of a grain and one drop of Creosote; make into a pill and confine it in the cavity of the tooth by Wax. Let it be in about a day, or touch the exposed nerve with Lunar Caustic. Where Mortification is about to take place in a part, or where it smells



very bad, a Carrot poultice, or a poultice made of finely pulverized Charcoal and Peruvian-bark should be used.

#### A TOOTH-POWDER TO CLEAN THE TEETH.

Peruvian-bark two ounces, Gum Myrrh two ounces, Chalk one ounce, Armenian bole one ounce, Orris root one ounce; all to be pulverized together very finely.

#### TO COLOR THE HAIR BLACK.

Take equal parts of Vinegar and Lemon-juice, say two ounces of each, two ounces of Litharge; boil for half an hour over a slow fire: wet the hair with this decoction and in a short time it will turn black. Or, take of bruised Gall-nuts one pound; boil them in Olive oil until they become soft; then dry them and reduce them to a fine powder, which is to be incorporated with equal parts of the Charcoal of willow and Common salt pulverized; add a small quantity of Lemon and Orange peel, dried and reduced to powder; boil the whole in twelve pounds of water till the sediment at the bottom of the vessel is of the consistence of salve. The Hair is to be anointed with these preparations, covering it with a cap till dry. It should be applied at least once a week.

#### POISONS AND THEIR ANTIDOTES.

When Poisons have been swallowed, the first thing to be done, is to remove them from the stomach, either by a Stomach pump, by Emetics, or by both. The best emetic for this purpose is White vitriol, twenty grains dissolved in a teacupful of Warm water; assist its operation by tickling the throat with a feather dipped in oil, and by a Tobacco poultice over the stomach.

The next thing to be done, which, indeed, can be done at the same time you are producing vomiting, is to give something to change, chemically, the nature of the poison, converting it into an innoxious or harmless substance. If the poison be a corrosive or burning poison, you must give some Mucilaginous or oily substance to protect the coats of the stomach, such as the Whites of eggs, Slippery-elm or Flax-seed water, Sweet oil or Linseed oil, or Butter, or Lard.

#### ANTIDOTES FOR ALKALIES AND THEIR SALTS.

Liquor of Ammonia and Sal Ammonia, are neutralized by Lemon-juice, Olive oil, and Flax-seed oil.

For Potash, and Pearlash, and Lye, the antidotes are the same as the above, some oily or greasy substance, which forms Soap with the Alkalies. The antidote for Saltpetre is Mucilaginous drinks. For Liver of Sulphur, Common salt.

The antidote for Arsenic is the Hydrated Peroxide of Iron; in the absence of this, iron rust; afterward Mucilaginous drinks.

For Tartar-emetic, the infusion of Oak bark, of Gall-nuts, or of Peruvian-bark. A strong decoction of Common tea is good also in poisoning from Tartar-emetic.

For Carbonate of Barytes, Epsom or Glauber salts. For poisoning from Blue Vitriol, Verdigris, "Scheele's Green," food cooked in dirty copper vessels, or pickles made green by Copper, give the Whites of eggs in large quantity. For Spanish-flies, Linseed oil; for Muriate of Gold, give Sulphate of Iron (Copperas). For the preparations of Opium, such as the Gum, Laudanum, Morphia. Paregoric, use an emetic and stomach-pump, as in every other case of poisoning,

then use strong hot coffee, keeping the person moving all the time and dashing him with cold water. For Lead and its various preparations, such as White Lead, Red Lead, and Sugar of Lead, use Epsom Salts and water acidulated with Sulphuric acid.

Mercury and its different combinations, such as Corrosive Sublimate and the Iodide of Mercury: the antidotes are Milk, the Whites of eggs beaten up with water, Wheat flour, similarly prepared. The antidote for Oxalic acid is Chalk and water.

Prussic acid: for this, give a few drops of the Spirits of Ammonia, frequently repeated, and the cold dash should be used. For Nitrate of Silver, use common Salt. For the Muriate of Tin, Dyer's Solution, Putty, Gunpowder, give Whites of eggs. For Sulphate of Zinc (White Vitriol), Oxide of Zinc, and Acetate of Zinc, give Milk and the Carbonate of Soda.

The antidote for Muriatic acid is common Pearlash, or Carbonate of Magnesia, Carbonate of Soda, Chalk, or Soap in solution, to be accompanied with copious draughts of warm Flax-seed tea, Milk, or some mucilaginous or oily fluid.

The antidote for Nitric acid is the Carbonate of Magnesia, Chalk, with warm Flax-seed tea. For Sulphuric acid (Oil of Vitriol), give the same as for Nitric acid.

#### TREATMENT OF THE BITES OF MAD DOGS, VENOMOUS SNAKES AND INSECTS.

Where the teeth have made a wound in a fleshy part, sharpen a stick so as to fit the hole, and then, with a sharp blade, cut the part out around the stick so as to take out an entire cap of flesh on the point of the stick. First of all, however, tie a band around

the limb, above the wound, tightly, to prevent the poison being absorbed into the system. After you have cut out the wounded parts, or even before, if you cannot get them cut out immediately, suck the wound with all your might, draw out all the blood you possibly can, or put on a Cupping-glass and draw it. When this is done, wash the wound with a solution of Potash or Ammonia; then give the patient two grains of Opium and ten grains of Calomel, and let him go to bed; after a few hours, give him a Cathartic to open his bowels. If symptoms of the disease occur, keep the patient insensible with large potations of ardent Spirits and Opium or inhalations of Chloroform.

Medicines that should be kept in a family living at a distance from a drug-store.

Epsom Salts.	Aqua Ammonia.	Dover's Powders:
Senna.	Creosote.	Spirits of Camphor
Castor Oil.	Hydrarg. cum Creta.	Volatile Liniment.
Sweet Oil.	Quinine.	Mustard.
Calomel.	Blue Mass.	Cayenne Pepper.
Rhubarb.	Tannin.	Chloroform.
Jalap.	Nitrate of Silver.	Blister-plaster.
Aloes.	Ipecac.	Adhesive-plaster.
Magnesia.	Hive Syrup.	Mercurial Ointment.
Pink-root.	Laudanum.	Stramonium Oint.
Turpentine.	Paregoric.	

Where Arsenic is used about the house, the Hydrated Peroxide of Iron.

It would be well also to keep a large metallic, and a small glass Syringe, a Catheter for drawing off the urine, a Lancet, a pair of small Forceps, and a Probang for removing substances from the throat.

## APOTHECARIES' WEIGHTS AND MEASURES.

## FLUID MEASURES AND THEIR SIGNS.

60	Minims	(sign $\mathfrak{m}$ )	make	one	fluid	drachm.
8	Fluid drachms	(3)	"	"	"	ounce.
16	" ounces	(3)	"	"	"	pint.
8	" pints	(O)	"	"	"	gallon.

## APOTHECARIES' MEASURES AND THEIR SIGNS.

20	Grains	(sign gr.)	make	one	scruple.
3	Scruples	( $\mathfrak{S}$ )	"	"	drachm.
8	Drachms	(3)	"	"	ounce.
12	Ounces	(3)	"	"	pound ( $\mathfrak{L}$ ).

The ordinary measures by which medicines are administered :

A teaspoonful	is supposed to contain about	one	fluidrachm.
A coffee or dessert-spoonful	"	"	three "
A tablespoonful	"	"	four "
A wineglassful	"	"	two ounces.
A cup or glassful	"	"	four "



A PARTING WORD OF ADVICE TO THE READER HOW TO BE HEALTHY, HAPPY, HANDSOME, AND LONG-LIVED.

First: Live in a healthy climate. However temperate and well-regulated your life may be, you cannot expect to have good health, as long as you are breathing a poisoned air.

Second: Engage in a healthy occupation; one that exercises the whole body much in the open air. Avoid inactive confinement in ill-ventilated rooms. Have an occupation of some kind, no difference what your pecuniary circumstances may be; you cannot enjoy life without occupation.

Third: Observe regularity in everything; in eating, in drinking, in labor, in rest, in recreation, in intellectual and physical exercises, in washing and bathing, in sleep and in the natural evacuations of the body. Let every duty have its regular hour, and every hour its regular duty.

Fourth: Let your food and drink be proper, simple in quality, and not taken in excess.

Fifth: Be cleanly in every part of your person.

Sixth: Be chaste. Have one companion of the opposite sex, and but one, whom you purely and sincerely love.

Seventh: Avoid all bad and unnatural habits, such as the use of artificial stimulants: tea, coffee, tobacco, opium, and spirituous liquors, as also excesses of all kinds; any practice that stimulates or depresses unnaturally the powers of life.

Eighth: Be honest, industrious, and economical, and thereby acquire a competency and an independence.

Ninth: Be religious. Trust implicitly in a Supreme Being. Love his works. Serve and adore him.



## SUPPLEMENTARY LECTURE

ON

## ORGANIC GENERATION.

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OUR subject for this evening's lecture, gentlemen, is the Generative Organs—that apparatus by which our species is propagated or increased.

It is a fixed principle through all organized nature, that the germ, from which an organized body springs, must come in contact with the sperm of the opposite sex before an organization commences. This principle not only belongs to the animal kingdom, but also to the vegetable kingdom. Neither an apple, nor an ear of corn, nor a head of wheat comes to perfection until two germs of opposite sexes come together, and thus, in some mysterious, incomprehensible manner, originates the organization of the fruit or the grain. This mixing of the germs of vegetables, or their impregnation, takes place while the vegetable is in bloom. This is the use of blossoms, to mix the semen of the two sexes together. That fine powder covering the inner structure of the flower, is the semen or germinating principle of plants, which becoming separated from the male blossom or male part of the blossom of the vegetable, and on coming in contact with the female blossom or female part of the blossom, impregnates it,

and thus originates the fruit or grain, or whatever production the plant brings forth. With some plants the two sexes are found on the same stalk ; with others they are found on different stalks.

The necessity of the flowers of vegetables becoming impregnated by the seminal dust of the opposite sex is illustrated in a cornfield, where a severe hail-storm comes on, when the corn is silking out. The hail knocking the delicate dust off from the silk, which dust is the fecundating or germinating principle, prevents the ears of corn from becoming fully developed. This is the reason that different kinds of corn, planted in the same field, become mixed. The semen or dust of one kind of corn comes in contact with and impregnates the germ of another kind of corn, and, as a consequence, the children or ears of corn resulting from this mixed impregnation, partake of the peculiarities of both parents. The vegetable kingdom, at this time of the communication of the sexes, or this *running time* of the vegetables, is arrayed in all its glory, putting on its most beautiful apparel, as if to entice the sexes toward each other. When impregnation has been effected it throws off its allurements and goes to work in a sober and maternal manner to the rearing and bringing to perfection of its offspring.

On the same principle of the mixing of the semen of the two sexes, all orders and species of animals are propagated, from the zoophyte, which can scarcely be distinguished from the rock to which it is fastened, up to man, the most perfect of all organized animals. The manner in which this seminal fluid of the two sexes is brought in contact differs in different animals. In the lowest orders of animals, as the zoophyte and oyster, the genital organs of both sexes exist in the

same individual, being what are called hermaphrodites. In some insects the genital organs are in the front part of the body.

Other animals, such as the frog and toad, have another way of mixing the seminal fluid. The male lies on the top of the female for days together, hanging on by a peculiar structure made for the purpose in the fore-feet or hands; he does not introduce the semen by penetrating her with a penis, but simply pours out his fluid over her external organs of generation, she, at the same time, pouring out her seminal fluid, they become mixed and the spawn becomes impregnated. Some kinds of fishes impregnate their spawn in the same manner, while others, as the whale, have connection with one another like human beings, the female whale turning over on her back, and the male gliding on to her. The leech has the organs of both sexes in the same individual.

The testicles or stones of different animals are situated in different parts of the body; some in the front part, some in the back part, while some hang pendulous, as those of the bull and ram. Birds have their testicles inside of the body: their generative organs, and urinary organs, and digestive organs all empty into the same pouch, called the Cloacus.

In having connection with one another the different animals have an instinctive knowledge how to operate. The male cat, whose penis is short, hangs on with his teeth and claws. The male elephant, whose thick body prevents its bringing its genital organs in contact with those of the female while standing on the same level, digs a hole in the ground, in which the female stands while he has connection with her.

The time that different animals occupy in copula-



tion, differs greatly. The bull and ram and the male of most kinds of birds occupy but a short time, while others, as the dog and boar, are tedious in copulation. The lower animals differ from man in having particular seasons for venereal desire. When that desire is satisfied by impregnation, it does not return until the female has been delivered of her progeny and has reared them so as not to require her attention. Whereas in the human species the venereal desire may be excited under most all circumstances.

We come now to speak of the genital organs of the human species. First then of the male. The genital organs of the male consist of the Penis, Urethra (which is common to the genital and urinary organs), Vesiculæ Seminales, Vasa Deferentia, and Testicles. The Penis and Testicles are the external organs of generation in the male, and the Urethra, Vesiculæ Seminales, and Vasa Deferentia, the internal organs. To commence then with the Penis.

The body of the Penis is composed mainly of three bodies of loose cellular substance, two of them lying side by side, called the Corpora Cavernosa, and the third body, lying under these two, called the Corpus Spongiosum. At the end of the penis this lower body, or Corpus Spongiosum, becomes enlarged into the Glans penis, or head of the penis. Through this corpus spongiosum goes the Urethra, which opens externally through the glans penis, and internally into the bladder. Through this urethra pass the urine from the bladder and the seminal fluid of the male. The end of the urethra that connects with the bladder is surrounded with muscular fibre, whose contraction prevents the urine flowing out continually. Sometimes the integrity of this muscle is destroyed, which

prevents the person, so afflicted, from retaining the urine.

I knew an actress who had to wear a sponge during her performance on the stage, from a defect of this kind. When we wish to evacuate the bladder, that is, to force out the urine (that is brought there from the kidneys by two little ducts called the ureters) this little sphincter muscle, that surrounds the mouth of the bladder and commencement of the urethra, relaxes, and the muscular fibres that compose one of the coats of the bladder contract, and also the muscles covering the abdomen, which forces the urine out through the urethra.

There are little valves at the openings of the ureters or ducts, that bring the urine from the kidneys, which are open when the bladder is relaxed, but which shut up the openings of the ureters when the bladder contracts, to expel urine, so as to prevent the urine being forced back to the kidneys. When the bladder becomes properly emptied, the muscular coat of the bladder relaxes, and the muscle that surrounds the mouth of the bladder and the commencement of the urethra contracts again, so as to prevent the urine from continually dribbling away from the bladder, as in incontinence of the urine, of which I just spoke. After the bladder relaxes and the mouth of the bladder is shut, thus cutting off the stream of urine suddenly, the urethra, from the bladder out to its termination, is full of urine. How is this evacuated? Surrounding the urethra are two sets of small muscles, one set called the *Acceleratores Urinæ vel Ejaculatores Seminis*—which means the Hurriers of the Urine or the Throwers out of the Semen. The other set compose the compressor *Urethræ*. These little muscles, by their contrac-

tion, suddenly close the passage of the urethra, and consequently force out in a jet whatever happens to be in the urethra, whether it be urine or semen. These little muscles contract suddenly in emptying the urethra; hence the reason why the last drops of urine are forced out in jets, just as these muscles contract. And this is the way the Semen is forced out by the contraction of these same muscles, forcing it out in a jet.

The three bodies that compose the body of the Penis, the two Corpora Cavernosa and the Corpus Spongiosum, are very loose in their structure, and capable of being injected with blood, which renders them much fuller, longer and harder, in a condition for penetrating the female organs of generation. The stimuli that cause the blood to flow to the Penis and thus inject it, are lascivious desires or thoughts, certain substances taken into the stomach, and friction or rubbing of the penis. I knew a steamboat captain at St. Louis, that had been dissipating quite extensively on his way up from New Orleans, and who had a wife in St. Louis, that took largely of a stimulant that causes injection of the penis. His penis became so injected with blood, that the injection would not go down; and it was just as much as a skillful surgeon could do, by the application of Ice and other powerful remedies, to save his penis for him.

In the dog there is a muscle, going across the penis, that contracts when the penis becomes erected, and chokes it, keeping it swelled, so that the dog cannot reduce the enlargement at will.

The same sort of an arrangement exists in the bitch, so that when they are copulating, the genital organs

become mutually swelled together, and remain so until the semen of the dog is discharged.

The Penis is held in an erect position by a ligament going from its upper side and fastened into the bones of the pelvis. It is erected also by a couple of muscles, one fastened to each side of the penis, the other ends of which are fastened to the bones of the pelvis.

Now I have told you how the penis is made, how it is erected and held in its position, and how the Semen, after it gets into the Urethra, is forced out in jets. The next thing to be considered is, how does the Semen get in the Urethra, how is it formed, and what is its nature. Opening into the upper portion of the Urethra, near its commencement at the bladder, are two little tubes going to a couple of little bodies called *Vesiculæ Seminales*.

These *Vesiculæ Seminales* are composed of a minute tube or tubes, twisting around in every direction, through which the semen passes, or in which it is contained as a reservoir, until it is forced out by the contraction of the little muscles that surround the urethra, of which I spoke before—the *Acceleratores Urinæ* or *Ejaculatores Seminales*, and the compressor *Urethræ* muscle. When the penis is erected, and stimulated by friction, or by being introduced into the female organs of generation a sufficient length of time, it stimulates these little muscles to contract suddenly, causing the semen to flow from these *Vesiculæ Seminales* into the urethra and to be forced out, as the last drops of urine are, in jets. This is the manner in which the semen is injected into the organs of the female. The presence of the semen in the *vesiculæ seminales* has some mysterious influence in causing

venereal desires ; for as soon as it is thrown out the venereal desire passes away.

One contraction of these muscles does not force all the semen from the vesiculæ seminales ; because after a little rest other discharges of semen can be produced in like manner. Some of the lower animals, as the rooster and the ram, can have connection with the opposite sex every few minutes all day. A story is told of a ram that got over to an island one night, where there were two hundred ewes, and impregnated them all before morning. There is a historical fact in connection with the celebrated siege of ancient Troy, that the Grecians being so long from home (the siege lasting several years), were afraid their country would become depopulated by their long absence from their wives ; so they sent home a few of their best men, who soon impregnated the whole female part of the nation. My memory does not enable me to give you the figures of their exploits, and for fear of being accused of exaggeration, I will not endeavor to call them to mind.

The next question is, how does the semen get into these vesiculæ seminales or reservoirs of the semen ? It gets there, through two ducts called the Vasa Deferentia, which go from the vesiculæ seminales to the testicles.

The testicles hang behind and under the penis, between the legs. They are contained in a bag, consisting of two coverings, the integument or skin, and a sort of contractile covering beneath the skin, which gives the bag and its contents that peculiar worm-like motion that is observed in it. The object of this motion is probably to have some effect in stimulating the testicle to the secretion of the semen, or to assist in



the passage of the semen from the testicle. The proper coverings of the testicle itself, the coverings that form the walls of the testicle, are two; an external serous membrane, and an internal fibrous or harder covering, which gives the form to the testicle. The testicle is an ovoid gland, composed principally of a great number of little ducts that commence from its back part and go in convolutions or twistings toward the circumference of the testicle. These little tubes are called *Tubuli Seminiferi*, or semen-carrying tubes. Here, in these minute tubes, is where the semen is separated from the blood, by some glandular peculiarity which we cannot explain. When the semen becomes separated from the blood in these little *tubuli seminiferi*, it is carried along their course to the back part of the testicle, where these little tubes become straight, and are called *Vasa Recti*; farther along, they are called *Vasa Efferentia*; farther along still, after all the tubes leave the body of the testicle at the upper part, and turn going down behind it, they take a zigzag or twisted direction, forming a projection which can be felt on the back part of the testicle, called the *Epididymis*. At the lower part of the *epididymis* all these tubes become merged into one, the *vas deferens*, which goes up into the abdomen, and comes down on the side of the bladder and becomes connected with the ducts of the *vesicula seminalis*.

So you can see at a glance, the origin and course of the semen. It is first formed in the *tubuli seminiferi*, in the body of the testicle; it goes thence, along the little tubes, the continuations of the *tubuli seminiferi*, along the back part of the body of the testicle to its upper part; there it goes along the little tubes, striking

out from the body of the testicle forming the epididymis, and descending it becomes collected into one tube at the bottom of the epididymis, the vas deferens; it then ascends through the vas deferens into the abdomen, and passes into the vesiculæ seminales or reservoirs of the semen; from these it is forced out by the contraction of the little muscles I have before spoken of, when these muscles are excited to contraction by the influence of the venereal passion.

Of the composition, nature, and use of the semen, we shall speak hereafter, when treating of the union of the sexes, or copulation.

#### FEMALE ORGANS OF GENERATION.

They are divided into the external and internal organs.

The external organs of generation are the Mons Veneris; the Labia Majora or greater lips of the Vulva; the labia Minora or Nymphæ, or lesser lips; the Clitoris and the Hymen. The Mons Veneris or mountain of Venus, is a prominence situated at the upper part of the external organs of generation and covering the prominence of bone called the Symphysis Pubis. The Mons Veneris is composed principally of cellular tissue and fat, and covered after puberty with hair. Its use is probably to afford a cushion over the bone, to prevent too much bruising during coition. The Labia Externa or Labia Majora, resemble in structure very much, the Mons Veneris, being composed principally of loose cellular tissue and fat, and are covered after puberty with hair. Their inner surface is lined with a very delicate mucous membrane, more delicate than that lining the mouth. The slit or cavity that the external lips surround, is

called by physicians the Vulva—by the unprofessional, it is called something else. The Labia Minora or Labia Interna, or lesser or internal lips, are two folds of the lining of the Vulva, and lie inside of the greater lips. In the virgin, they are concealed by the outer lips entirely, and when the outer lips are pretty well covered with hair, nothing can be seen of the female organs of generation except a little black or sandy spot between the legs. As the woman has children however, these inner lips increase in size, so that they can be seen between the outer lips. Among some nations, the Hottentots for example, these inner lips grow to an inconvenient size, so that they have to be cut off. Hanging in the upper part of the Vulva, is a small pendulous teat, called the Clitoris, less than an inch in length. It can be seen by opening the external lips; it resembles the male penis, and is capable of being erected under the influence of the venereal desire. It has been known to grow four or five inches long, giving the organ the appearance of a genuine penis. This unnatural enlargement of the Clitoris, has given rise to the erroneous idea of the existence of hermaphrodites, or persons having both the sexes combined in the same individual. The Clitoris is supposed to be the seat of the venereal desires. About an inch below the Clitoris, is the opening of the vagina. In some virgins, who have never had connection with the opposite sex, there is a very delicate membrane drawn across the lower part of the opening of the vagina; this is called the Hymen, or, in vulgar language, the maidenhead. It becomes ruptured in coition. It is not a sure test of virginity, for many virtuous maidens have this hymen ruptured before they have connection with the opposite sex. And

here, I will give a word of advice to those young gentlemen who intend to get married shortly, that if they do not find, on the consummation of their nuptials, a formidable barrier there, requiring all their strength to overcome—I say, if they find this barrier entirely absent, and they are enabled to cohabit on their first night with the utmost facility, they need not become alarmed and jealous, as to the chastity of their wives; for there is not one maiden in ten, who, at the age of eighteen, will offer much resistance (so far as the hymen or maidenhead is concerned), to the entrance of the penis. Above the opening of the Vagina, between that and the Clitoris, is the Meatus Urinarius or opening of the Urethra, the tube going to the bladder for the passage of the urine.

The internal organs of generation of the female, are the Vagina, the Uterus or womb, the Ovaria, and the Fallopian tubes. The Vagina is the duct or passage leading from the Vulva to the Uterus; it is the sheath into which the penis passes in coition; and it is the track the child follows in coming from the uterus to the external world. In the virgin, the vagina is about an inch in diameter, and from three to five inches in length. It is lined with mucous membrane, and contains a number of little follicles that secrete and pour out into the vagina a thin fluid during the act of coition and during childbirth. These little follicles are stimulated to increased action also, by the venereal desires of the female. Surrounding the opening of the vagina, are a few muscular fibres that have a tendency to contract this opening; the contraction is not sufficient however to offer an impediment to the entrance of the penis.

The vagina as well as the external organs of

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generation of the female are susceptible of great expansion at childbirth, to prevent a rupture of the parts. These parts, after childbirth, never become as small as before. Opening into the upper end of the vagina, is the neck of the uterus. The vagina at its upper end, surrounds the neck of the womb, and is firmly attached to it. The uterus or womb is a muscular pouch, having the shape of a flattened pear. In the virgin, the uterus is about three inches long, and about two inches broad. It is held in its place by strong ligaments. The uterus is the receptacle of the child, the place where the child grows until it becomes sufficiently developed to live in the external world. The uterus enlarges as the child grows, and its muscular structure becomes stronger, until it is able, at the end of nine months, to expel the child from its cavity by the contraction of its muscular fibres. The opening of the womb through the neck, which projects into the vagina, is a mere slit or crevice in the virgin uterus, and a very small, round hole in the uterus that has been delivered of children, scarcely large enough to admit the point of the finger. But just before delivery, it becomes enlarged sufficiently, to admit of the passage of the child without being ruptured. Opening into the upper part of the uterus, on each side, is a little duct about the size of a goose-quill, from four to five inches long; its outer extremity is open and terminates by a little fringe into what is called the cavity of the Peritoneum (the serous membrane covering the bowels, uterus, and the other organs of the abdomen). One of the slits, forming the fringe of the Fallopian tube, is fastened to a small glandular-looking body, about the size of an almond. This little body is called the Ovarium, and the two



taken together, one on each side of the uterus, are called the Ovaria, meaning literally, the receptacles of eggs. Inside of these little Ovaria, are a number of minute vesicles, filled with a clear fluid, in which may be seen a flocculus or flake-like substance floating. There are from ten to twenty of these little vesicles in each Ovarium. This vesicle is the germ or egg from which the human being starts. This little insignificant blister of clear fluid is the beginning of man. When one of these little vesicles becomes impregnated by the semen coming in contact with it, the vesicle enlarges—leaves the Ovarium—the little fringes of the Fallopian tube clasp it, and it descends down the tube into the uterus, where it becomes surrounded with membranes, that commence growing for the purpose; it becomes nourished with blood by a growth on the inside of the uterus, called the Placenta or afterbirth, and thus it continues to grow and assume more and more the shape of a human being, until finally, at about seven months from the time the vesicle became impregnated, the being becomes so far organized as to be able to live in the external world. Nine months, however, is the natural period for the full development of the child, before it is expelled from the uterus.

We have described to you the different organs of generation of the male and female; we will now describe, in connected detail, the process of propagation. In order that the human species might increase, our Creator placed in its mental organization a desire for sexual intercourse—a desire sometimes almost uncontrollable. This mutual desire brings the two sexes together; it renders the generative organs in a proper condition to become united together.

When the penis of the male is introduced into the

vagina of the female, after a certain lapse of time, varying in different individuals and under different circumstances according to the exertion and energies of the individuals, the little muscles surrounding the urethra and vesiculæ seminales are stimulated to contract, which contraction forces the semen into the vagina of the female. The discharge of the semen satisfies, for the time, the venereal desires of the male and female.

The semen, after it is discharged into the vagina, goes up into the uterus, and from the uterus up the Fallopian tubes, and finally comes in contact with the little vesicles in the ovaria and stimulates them to germinate, thus producing impregnation. Immediately the new being commences forming. The loose fringe of the Fallopian tube grasps the detached vesicle and conveys it to the uterus. Here it becomes developed gradually until, at the expiration of about seven months, it has acquired all the necessary organization to enable it to live in the external world; it is not expelled, however, until two months afterward, it being then more perfectly developed and better able to resist the influences of the external world.

While in the womb the being does not breathe nor is it nourished by food introduced into the stomach, as in the external world, but it is nourished by the blood of the mother introduced into the child by bloodvessels in the umbilical or navel cord. Covering a great portion of the inside of the uterus during pregnancy, is a growth, called the Placenta or After-birth, which receives blood from the mother through the uterus, and conveys it to the child, for its nourishment, through the umbilical cord.

The blood is circulated through the body of the

fœtus by its heart, but it does not go through its lungs, there being an opening between the two cavities of the heart, which lets the blood go from the right side, as it is returned from the system, into the left side, whose contraction forces it through the system. At birth the lungs are first expanded, and the blood, in passing through the heart, changes its direction; instead of going from the right side of the heart directly into the left side, it goes from the right side through the lungs, and from the lungs into the left side of the heart. The hole between the two cavities of the heart closes up. The umbilical circulation lasts until the child commences breathing, and then it stops. There is always a necessity, while the child is passing through what are called the Straits of the pelvis, for the umbilical cord to be free from pressure until the head is born and the circulation through the lungs is established. Pressure of the umbilical cord, before birth, is as fatal to the child as strangulation would be after birth.

The circumstances necessary for the impregnation of woman are; that the semen of the male be introduced into the vagina, and that the vagina have a free communication with the uterus, and that the uterus have a free communication, through the Fallopian tubes, with the vesicles of the ovaria. It is not necessary that the semen be introduced far up into the vagina. Women have been surprised at finding themselves impregnated from the semen being discharged between the outer lips of the vulva. Possibly barrenness, in a majority of cases, is owing to some obstruction of the Fallopian tubes, which prevents the semen coming in contact with the ovarian vesicles. Barrenness can be produced, where there is a necessity for it,

on account of the narrowness of the pelvis or other constitutional defects, by interrupting the communication between the uterus and ovaria by a section of the Fallopian tubes.

A willingness of the parties is not necessary for the induction of impregnation. The female may be entirely unconscious of the act. A story is told of a priest who had connection with a young lady whom he supposed to be dead, but who revived and became pregnant not knowing how she became so. A case is related also of a servant-girl who was impregnated while lying before the fire asleep.

There is a peculiarity of the female system that seems intimately connected with her generative powers; this peculiarity is the Catamenial discharge—the Menses or monthly courses, as they are generally called. The Menses is a discharge from the uterus, resembling blood somewhat, which takes place, under favorable circumstances, once a month. The discharge varies in quantity from two to six ounces, and generally continues from three to six days.

This Periodical discharge commences at what is called the age of puberty. The age at which the sexes take on their sexual peculiarities, the male becoming capable of impregnating and the female of being impregnated. During the period of impregnation, and during a few months afterward, while nursing the child, this secretion of menses is suspended. When the menses return the female becomes susceptible of being impregnated again. At the age of about forty-five the menses become entirely suspended, from which time the woman is barren.

The age of puberty differs under different circumstances. In cold climates it comes on late—in females

from the age of eighteen to twenty-one. In warm climates, from twelve to sixteen. Much depends on education, however, as to the early development of puberty. If the associations of the girl are such as to cause her thoughts to run much in this channel, puberty will be much earlier with her than if her thoughts have a different direction.

The Generative power of both sexes may be greatly injured and weakened by an excessive exercise of them. The design of these organs is to perpetuate the species, and to this end should they be used, and not merely for the gratification of the animal passions. It is a wise provision for the virility of man, that among enlightened nations it is lawful to have but one wife. Where there is but one female for the man to cohabit with, there is not that danger of excessive venery as where there are a variety of females for the male to bestow his favors on.

There is an abuse of the generative organs that is pretty generally practiced, much worse in its consequences than excessive venery. It is Onanism or self-pollution; by which the semen is discharged without having connection with the opposite sex. No practice will sooner destroy man's virility and even his mind, than this. This practice finally gets the generative organs into such a condition as to produce involuntary emissions of semen. A lascivious dream, or even a lascivious thought, producing a discharge of semen. This constant drain on the nervous energy soon destroys it and leaves the subject a pitiable idiot.

The Generative organs are subject to diseases of the most disagreeable and disgusting nature, brought on in the first place, by the promiscuous intercourse of



the sexes. A virtuous young man marrying a virtuous young woman, neither of them, so long as they remain constant, will have the venereal disease. But if he or she have intercourse promiscuously with many persons of the opposite sex, venereal disease will probably be induced. These venereal diseases are communicable from one person to another while cohabiting.

The two most common venereal diseases are Gonorrhea and Syphilis, or "Clap" and "Pox." Gonorrhea or clap consists in a peculiar inflammation of the mucous membrane, lining the urethra or tube going to the bladder. In coition it communicates the same disease to the opposite sex. If suffered to continue it finally almost obliterates the urinary passage, causing the most extreme pain when the urine is voided, or when the parts are in a state of erection.

Syphilis or pox commences with a sore called a Chancre, on the mucous membrane lining the external organs of generation. The matter of these chancres communicates the same disease to the opposite sex during coition. Sometimes the same person has both of these diseases at the same time, and can communicate them both to an individual of the opposite sex. If the sores of syphilis are suffered to remain four or five days, the matter is taken up by the absorbents and taken into the general system. The Lymphatic glands of the groins, through which the matter passes, first become affected, swelling and sometimes suppurating; these enlarged glands, are called Buboës. The disease extends gradually through the system, showing itself in cutaneous eruptions, sore throat, and glandular enlargements. It finally extends to the bones, producing enlargements and caries of this structure. I have seen holes eaten through the skull, so as

to expose the brain, by this dread disease. I have seen the bones of the nose entirely eaten away by the same cause. Perhaps no criminal indulgence brings more horrid punishment than that of the sexual organs. When the disease once gets diffused through the system, its direful effects never become wholly eradicated. Parents, thus constitutionally affected, communicate to their offspring a vitiated constitution. If they do not, in reality, communicate the real venereal disease, they do, nevertheless, give to their offspring a constitutional condition, the most favorable for being affected by most every disease that flesh is heir to. Some writers contend that Scrofula is but degenerated Syphilis; certain it is that children inherit, indirectly, the sins of their parents, in this respect, to the third and fourth generation.

My advice to you then, young gentlemen, is, that you obey that commandment, which says, "Thou shalt not commit adultery;" for the violation of no divine commandment brings so speedy and severe punishment as this.

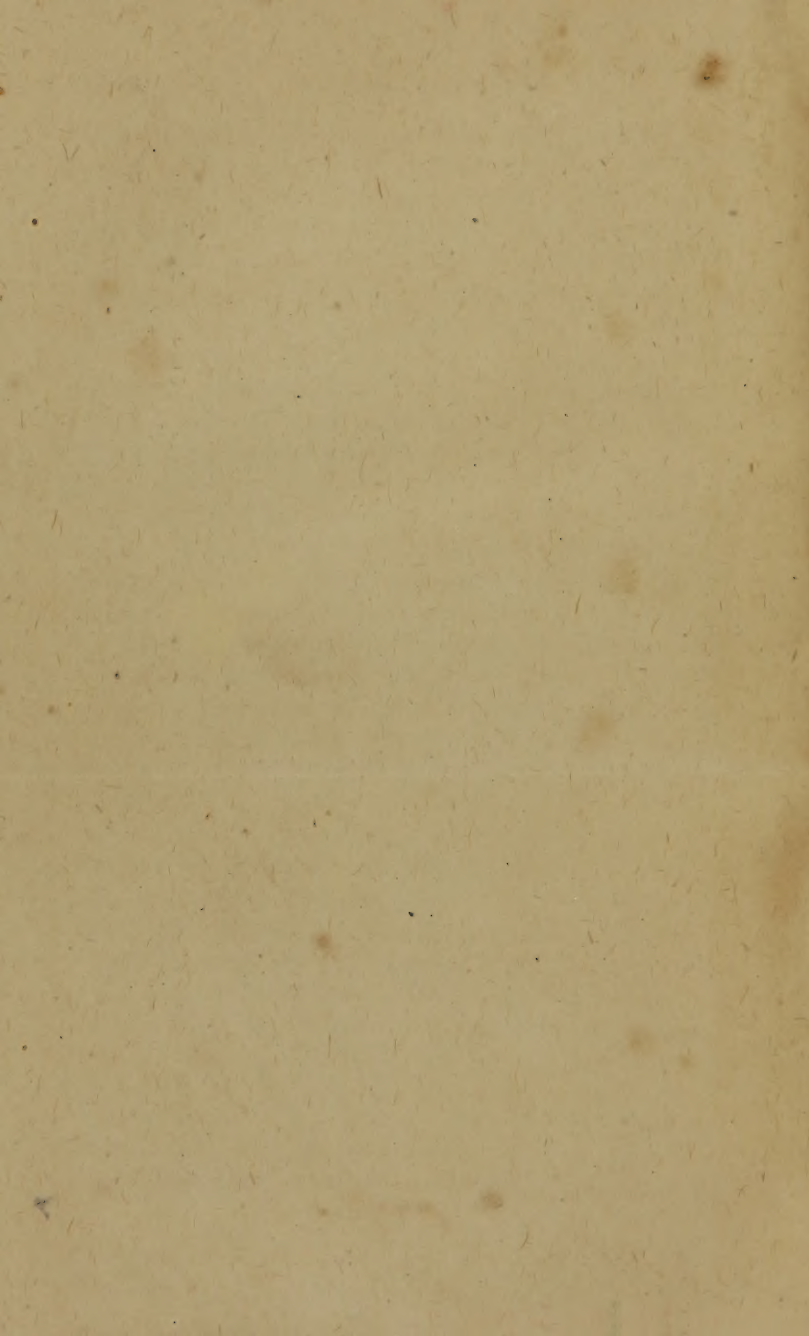
If you could but witness the direful effects of the violation of this law as exhibited in the diseased systems of those miserable beings, who present themselves at our hospitals for relief, it would convince you of the truthfulness of this advice.

It would seem as though our Creator had appended to this law a penalty that admitted of no abatement; a penalty that must punish to the death, and even after death, must leave its taint on the victim's posterity.

The moral effects of promiscuous intercourse are fully as destructive to the character as the physical effects are to the body; they destroy all of the finer

feelings of our nature ; they produce a skepticism as to the existence of virtue ; they paralyze the mind against the exercise of pure thoughts ; they fill the heart with corrupt desires ; in a word, they annihilate everything that is good and praiseworthy in humanity, and make their victim a loathing to himself, and an object of contempt and commiseration to his fellows.

It is Nature's design that you use your procreative organs, but in a lawful way. When you have arrived at the proper age, and other circumstances are favorable, if you can find one of the opposite sex that you really and purely love, and that pure love is reciprocated, join yourself to her in the holy bonds of wedlock. If you love her merely for her personal charms, and in anticipation of sexual gratification only, that love will be of short duration ; surfeit, and perhaps disgust will ensue. Your love should be of a purer and holier origin. You should be, in truth, bone of one bone, and flesh of one flesh. Your souls, as well as your hands should be united in wedlock. Your connubial love for one another should be shared by no other being. Actuated by such love, the exercise of the procreative organs will be a holy pleasure, not dissipated when the sensual gratification has passed. And when the charms and freshness of youth have become faded, your love for one another will glow with a brighter and more heavenly flame, and your souls will leave this existence in joyous anticipation of their happy re-union hereafter.



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